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#### THE

# ÆSCULAPIAN MONITOR.



#### LONDON:

PRINTED BY A. J. VALPY, TOOK'S COURT,
CHANCERY LANE.

1811.

#### ÆSCULAPIAN MONITOR;

OR

# Faithful Guide

TO THE

## HISTORY OF THE HUMAN SPECIES,

AND MOST IMPORTANT BRANCHES

OF

#### MEDICAL PHILOSOPHY;

COMBINED WITH MORAL REFLECTIONS, AND ENFORCED BY
RELIGIOUS PRECEPTS.

BY THE

#### REV. EDWARD BARRY, M. D.

RECTOR OF ST. MARY'S, WALLINGFORD.

#### LONDON:

SOLD BY MESSRS. LONGMAN, HURST, REES, ORME, AND BROWN;

PATER-NOSTER-ROW.



## ADVERTISEMENT.

Or too general a description are the materials from which this work is collected, to admit in every instance of particular acknowledgment.

With much original matter of his own, the Author has availed himself in all important cases of disease, of the sanction and advice of the most able medical writers.

Of some of them, he has occasionally retained the language, while of others, he has not unfrequently endeavoured to adapt the style, in a manner better suited to the intentions of this work; but has been careful, at the same time, to preserve the substance.

It was the Author's intention to have placed at the end of this book, a vocabulary of the technical words, which are unavoidably introduced into it; but as these are but comparatively few in number, and often explained by the context, he considered that such a reference, in the present instance, might well be spared.

Although this work may appear, what it is primarily intended to be, for those, who are altogether unacquainted with the subjects it endeavours clearly to explain; still would the Author hope, that it may be considered as a book not unworthy even of professional regard, and as embracing objects of general interest.

For this well intended effort, he solicits the indulgence of time, and the opportunities of emendation, which, from fair and libéral criticism, the Author most respectfully entreats.

> St. Mary's, Wallingford, September 13, 1811.

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#### SERMONS,

PREACHED ON PUBLIC OCCASIONS.

THIRD EDITION.

#### THE FRIENDLY CALL OF TRUTH AND REASON

TO A

#### NEW SPECIES OF DISSENTERS,

WITH

OBSERVATIONS ON THE ACT OF TOLERATION.

THIRD EDITION.

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# CONTENTS.

| authorism to the second | FAGE. |
|--|-------|
| To all those who preside over the weighty charge of  |       |
| public and of private education  | Ĩ     |
| To the Pupil   | ix    |
| A Morning Prayer for a young Student at School   | XV    |
| An Evening Prayer  | xvii  |
| A Short History of the Origin and Progress of  |       |
| Medicine · · · · · · · · · · · · · · · · · · ·   | 1     |
| Anatomy  | 8     |
| Surgery  | 11    |
| Botany   | 12    |
| Chemistry  | 19    |
| Acids  | 26    |
| Alkalies   | 27    |
| Metals · · · · · · · · · · · · · · · · · · ·   | ibid. |

|  | PAGE.      |
|--|------------|
| Pneumatics · · · · · · · · · · · · · · · · · · ·                             | 28         |
| Electricity · · · · · · · · · · · · · · · · · · ·                            | 30         |
| Galvanism  | 37         |
| A General Description of the Internal Parts of the                           |            |
| Human Body · · · · · · · · · · · · · · · · · · ·                             | 39         |
| Diseases · · · · · · · · · · · · · · · · · ·                                 | 47         |
| Of Fevers ·····  | 53         |
| The Inflammatory Fever · · · · · · · · · · · · · · · · · · ·                 | <i>5</i> 6 |
| Of the Putrid and Malignant Fever, or Typhus                                 |            |
| Putrida  | 58         |
| Of the Scarlet Fever, or Scarlatina Febris                                   | 65         |
| Of the Cow Pock, or Vaccine Inoculation · · · · · · · · ·                    | 68         |
| Directions for the Vaccine Inoculation · · · · · · · · · · · · · · · · · · · | 73         |
| Of the Measles, or Rubeola   | 76         |
| Of Pulmonary Consumption or Phthisis   | 78         |
| Of Apoplexy · · · · · · · · · · · · · · · · · · ·                            | 81         |
| Of Palsy   | 82         |
| Of Jaundice, or Icterus · · · · · · · · · · · · · · · · · · ·                | 83         |
| Of Dropsy, or Hydrops  | 84         |
| Of the Cholera Morbus · · · · · · · · · · · · · · · · · · ·                  | 85         |
| Of Rheumatism · · · · · · · · · · · · · · · · · · ·                          | 86         |
| Of the Gout, or Arthritis  | 87         |
| Of the Diseases incidental to Literary and Sedentary                         | -          |
| Persons  | 01         |

#### REMEDIES IN ALL CASES OF EMERGENCY;

|   | PAGE. |
|---|-------|
| Treatment of drowned persons                            | 99    |
| Burning of females by their clothes having caught       |       |
| fire  | 104   |
| A few cautions that might prevent the frequency of      |       |
| houses on fire  | 107   |
| To prevent the fatal effects of drinking cold water, or |       |
| cold liquors of any kind in warm weather, or            |       |
| when heated by exercise, or otherwise                   | 110   |
| To prevent the effects of excessive cold                | 111   |
| Intoxication  | 113   |
| Passions  | 115   |
| Suspension by the cord, or hanging                      | 117   |
| Suffocations by Mephitic Vapors, Charcoal, Beer,        |       |
| &c. &c  | 119   |
| Stroke of Lightning                                     | 121   |
| Bruises or Cuts   | 122   |
| Swallowing of hurtful substances, or danger of suffo-   |       |
| cation from things swallowed                            | 123   |
| Poisonous animals                                       | 126   |
| Poisons   | 128   |
| Opium, or Laudanum                                      | 131   |

|   | PAGE. |
|---|-------|
| Vegetable Poisons · · · · · · · · · · · · · · · · · · · | 133   |
| The bite of a mad dog                                   | 134   |
| Precaution to be taken against the bite of mad          |       |
| animals, and the Hydrophobia                            | 136   |
| General Precepts on the important concerns of health,   |       |
| and of acquiring the habits of a well-ordered           |       |
| mind  | 144   |
| Admonitions, which specially concern all those who      |       |
| preside over schools                                    | 146   |
| Concluding cautions and admonitions to young            |       |
| people · · · · · · · · · · · · · · · · · · ·            | 153   |
| To avoid the ungraceful acquirements of Stuttering,     |       |
| or Stammering in Speech                                 | 162   |

#### TO ALL THOSE,

WHO PRESIDE OVER THE WEIGHTY CHARGE

0 E

#### PUBLIC AND OF PRIVATE EDUCATION.

Whatever has a tendency to promote the interests of learning, health, and virtue, cannot be unworthy of your most fostering regard.

A competent knowledge of the structure of the human machine, and its wonderful destinations, appears to have a higher claim to the appellation of knowledge, than that of any other attainment in Science or Philosophy. To the conscience of man it brings an argument of its own, of the existence and of the profound reverence due to the omnipotent Creator!

From such conviction did the celebrated Galen call his Treatise, concerning the human body, 'A Monument to the Glory of the Deity.' "Our control over nature," observes the great Lord Bacon, "increases with our physical knowledge."

When the value of a sound state of body, and the miseries of disease, have taken early possession of the mind, it may be reasonably presumed, that if better motives do not resist the importunities of vice, the strong impulse of fear, as in other cases, will be found to operate as a safe-guard against some prevailing bad habits, which in their effects undermine and destroy the energies of the body, and by sad progression, dethrone and obliterate the powers of the mind!

It is an undeniable position, says the venerable author of the Commentaries on the Laws of England, "That a proper knowledge of the laws of that society, in which we live, should be the accomplishment of every gentleman and scholar; a highly useful, I had almost said essential, part of a liberal and polite education; and in this I am warranted, by the example of Ancient Rome, where, as Cicero informs us, the very boys were obliged to learn the Twelve Tables by heart, as a 'carmen necessarium,' to imprint on their tender minds an early knowledge of the laws and constitution of the country."

In most of the nations on the Continent, he remarks, no gentleman thinks that his education is completed, till he has applied himself to this study; and in the northern parts of our own island, this author observes, it is difficult to meet with a person of liberal education, who is ignorant of that science, which is to be the guardian of his natural rights, and the rule of his civil conduct.

In proportion, therefore, as health is preferable to property, of any sort, the arguments of this very able Lawyer and Judge apply with much greater force to the elementary knowledge of medicine, to the plain and simple rules of preserving health, and of restoring it when impaired: and here, by way of return, it may be seasonably observed, that without some anatomical knowledge of the human body, it is not to be imagined that the lawyer can satisfactorily understand the technical terms of medical evidence, on solemn and difficult investigations of personal violence, or insidious murder!

Lessons, therefore, in physical science, when fitly sorted from the aphorisms of ancient, and the improvement of modern, writers, justly put in their claim for some reasonable proportion of notice in the exercise of schools; nor could it with

fairness be objected, that they would divert the mind from more beneficial study, if even that could be pointed out; for deriving, as the student might, this salutary instruction from some of the highest sources in Greek and Latin authors, the very commendable pursuits of the Classic and Linguist could suffer no interruption, while they would be more profitably rewarded, than in being taught, as a learned and facetious writer observes, "how Phaeton broke his neck, or how many nuts and apples Tityrus had for his supper, or in getting by heart two or three hundred rumblers out of Homer, in commendation of Achilles's toes, or the Grecian boots."

In toiling after the shells of language, why not go in quest of those books, which contain the most precious kernels?

Celsus, whose Latin is so eminently pure and classical, wrote on medicine as a general scholar. Pliny, although no practitioner of the healing art, yet well understood it; and is acknowledged to have expressed his thoughts on the subject in the best Latinity. The Greek of Hippocrates, and

Dr. Eachard, late master of Catherine Hall, Cambridge.

Aretæus, is noticed for peculiar elegance and purity; and those, who are desirous of cultivating the Arabic language, cannot, it has been asserted by those who are qualified to give that opinion, go to better helps for improvement, than the medical writers of that country.

On the importance of medical study, even in preference to every other, the wise and sagacious Plutarch has recorded it as a reproach and shame against the learned, that they should spend whole days and nights in trifling investigations, when compared with those momentary ones of life and health!

Against this introduction to the knowledge of the Therapeutic art, if it be urged, that in future life, such information might dispose a few to tamper with disease, to the exclusion of practical and better advice, the same kind of insufficient reasoning would apply almost to every other subject, and not more to physic, than to the two other learned professions; since the same proportion of the knowledge of the law might inflame the mind with such a spirit of litigation and conceit, as would refuse the aid of safer counsel: the same remark will hold good with respect to theological inquiry, and that this particular study should be confined to the authorized ministers of it, lest the Laity, by

interfering too much, might mistake their duty; and instead of becoming more docile and more pious, would, in consequence of such intrusions, betray a temper much opposed, and even hostile, to these Christian duties; but very unfair it would be in this, as in other matters, not rightly to discriminate between the use and the abuse of an acknowledged good.

Experience, however, warrants the assertion, that in each of these instances, and especially in the concerns of life and health, those, who are the best informed, are the least confident of their own opinions, and are among the foremost to seek and adopt the advice of others. To entire ignorance of the nature of disease, and proper method of treatment, must be attributed the deplorable credulity of those, who so frequently become the dupes of boastful pretenders to medical skill; hence, again, a most weighty argument for protecting our youth, by suitable instruction, against the snares of their artifice, and the danger of being made the victims of unprincipled quackery!

Influenced, no doubt, by such laudable motives as these, the Prince Bishop of Wirtzburg, some few years ago, ordered a catechism of health to be distributed among the school-masters of his extensive dominions. The decree, which strictly

enforces the obedience of it, among other judicious remarks, proceeds to say, "That his Highness by no means intends to convert school-masters into doctors, or cause children to acquire medical knowledge, but rather to make people attentive to their health; to instruct them how to esteem this great blessing, and how to preserve it; to acquaint them with the most usual maladies; to exterminate the very dangerous custom of self-treatment, and the making use of domestic remedies; and to make his subjects in general sensible of the indispensable necessity of committing themselves to the care of proper physicians and surgeons in all cases of illness."

Beyond these important arguments more might be said, if more appeared necessary.

The invention of many hydraulic machines, the polite arts of painting and sculpture, owe to a knowledge of the human form some of the first hints and most perfect lessons.

Other branches of medical knowledge equally administer to polite entertainment, or commercial advantage.

In the estimation of the former, the science of Botany holds a proud distinction; and chemical

research has wonderfully promoted the interests of the latter.

Encouraged by the animating progress, which has been already made in the cultivation of every sort of useful learning, and the diffusion of religious knowledge, so creditable to the land in which we live, be it your ambition, ye meritorious instructors of youth, to add fresh laurels to your well-earned fame, and in your arduous, but honorable, duties, "Go on to perfection."

With humble desire of administering to your aid in these endeavours, allow me, with best wishes for your success and happiness, to offer to your notice, and for your approbation, this "ÆSCULA" PIAN MONITOR."

#### TO THE PUPIL.

On subjects of real importance to your present and future happiness, I have already ventured most respectfully to address the Tutor; the same friendly motives now induce me to exhort the Pupil.

Let me gladly suppose, that descended from healthy parents, and under the watchful eye of judicious management in the helpless days of infancy, you have now attained, by the blessing of God, the age of discretion.

Circumspection in every part of your conduct, both as it regards your health and character, is of the utmost concern, for you are "fearfully and wonderfully made."

If a house be damaged, it can be repaired; if a fortune be expended, by diligence and economy it may be replaced; if even character be injured, by perseverance in future good conduct it may be rectified; but if the springs of life and health be once seriously undermined, that artificer is God alone, who can restore them!

Of the inestimable value of health, in comparison of all earthly possessions, the son of Sirach has borne testimony in the following words:

- "Better is the poor, being sound and strong of constitution, than a rich man that is afflicted in his body."
- "Health and good state of body are above all gold; and a strong body above infinite wealth."
- "There are no riches above a sound body; and no joy above the joy of the heart."

So very intimate is the connexion between the mind and body, that it is impossible to explain how the operations of the one can be independent of the other; in all the variety of gradations from infancy to youth, from youth to mature life, and in all the changes from that, to age, infirmity, and death, by sympathetic union, (if the term be

allowed,) they reciprocally affect each other. When the body is diseased, the mind is made to suffer; and, in return, when the mind is depressed, the body, as if by consent of parts, is altered in capacity of action; but when body, as well as mind, are in healthy-and cheerful plight, and under the discipline of good education, virtue, and perseverance, there can scarcely be any well-directed enterprise, that can lead to honor and fame, which will not yield to the united powers of firmness of nerve, and vigor of intellect.

Out of a hundred blessings, which may be vouchsafed to mortals, in health alone, it has been rightly asserted, are comprised so vast a proportion as ninety and nine!

Of a boon so precious you cannot be too regardful; but concerning the indulgence of one solitary vice, against which the indignation of the God of nature has awfully been displayed, I cannot forbear, with trembling anxiety, most solemnly to warn you.

With painful reluctance indeed it is, that I allude thus early to this most abominable deed of

Gen. xxxviii. v. 9. "Affligit humi divinæ particulam auræ." Hor. 2d book, sat. 11. 7\$.

darkness and destruction! A crime, which, in the train of dismal consequences, it is sure to produce, blots out of the book of life,—tears from the bosom of disconsolate parents,—and is perpetually sending to an early grave these victims of guilt and folly, or pursues them, it sometimes happens, with the unwelcome respite of a short, but sad, existence,—with an accusing conscience, and a ruined body!

Unfaithful, therefore, should I be to the office I have now undertaken, if from any sentiments of fastidious delicacy, when concerns like these are so fearfully at stake, by suppressing these doleful truths, I concealed your danger, and hence made a cruel sacrifice at the altar of silence!

If the retirement, with which a propensity to a sin so debasing, encourages the commission of it, fly the spot! "Escape for thy life." Danger is in delay, security will be found in promptitude of resolution; but especially avoid the traps of idleness; for idleness is the nursery, it is the fertile root of almost every vice; wholesome, therefore, is the proverb, which forewarns us, "That the devil tempts every one, but that an idle person tempts the devil."

Suffer not the privacy of the act, against which

nature seems to revolt, to impose on yourself, as most certainly it will if you are the pander of it; and let me apprise you, that there are some criterions of look and manners, by which those, who are conscious of being guilty, cannot elude the discerning eyes of others. Above all things, remember, that God, from whom no secrets are hid, remember, that He sees you! Strongly does the psalmist attest this, when he says, Thou art about my path, and about my bed, and spiest out all my ways.

Forgive my earnestness with you in this matter, and cease not to implore Hum, from whom alone is strength, who is your Maker, Preserver, and your Almighty Judge, "to cleanse the thoughts of your hearts by the inspiration of his holy spirit."

Excellent was the advice of Pythagoras, and the verses which contain it are well entitled to the epithet of golden, when he tells us, that we ought not to close our eyes in slumber, before we have seriously questioned ourselves on the actions of the past day; they are beautifully translated and paraphrased in the following lines, which, together with a Morning and Evening Prayer, peculiarly adapted to the circumstances of every pupil, I have here transcribed, accompanied, as they most sincerely are, with my zealous prayers

to the Father of mercies, for your happiness in this life, and in that which is to come!

May you "grow in grace, and in the know-ledge of our Lord and Saviour Jesus Christ."

- " Let not the stealing god of sleep surprise,
- " Nor creep in slumbers on thy weary eyes,
- " Ere every action of the former day
- " Strictly thou dost and righteously survey.
- "With rev'rence at thy own tribunal stand,
- And answer justly to thy own demand-
- "Where have I been? In what have I transgress'd?
- "What good or ill has this day's life express'd?
- When have I fail'd in what I ought to do?
- " In what to God, to man, or to myself I owe?
- " Inquire severe, whate'er from first to last,
- " From morning's dawn, till ev'ning's gloom has past,
- "If evil were thy deeds, repenting mourn,
- "And let thy soul with strong remorse be torn:
- " If good, the good with peace of mind repay,
- " And to thy secret self with pleasure say,
- " Rejoice, my heart, for all went well to-day."

#### MORNING PRAYER

FOR A YOUNG STUDENT AT SCHOOL;

OR

FOR THE COMMON USE OF A SCHOOL.

FATHER of All! we return thee most humble and hearty thanks for thy protection of us in the night season, and for the refreshment of our souls and bodies in the sweet repose of sleep. Accept also our unfeigned gratitude for all thy mercies during the helpless age of infancy.

- "Continue, we beseech thee, to guard us under the shadow of thy wing. Our age is tender, and our nature frail; and without the influence of thy grace we shall surely fall.
- "Let that influence descend into our hearts, and teach us to love thee and truth above all things. O guard us from temptations to deceit, and grant that we may abhor a lie, both as a sin and a disgrace.

- "Inspire us with an abhorrence of the loathsomeness of vice, and the pollutions of sensual pleasure. Grant, at the same time, that we may early feel the delight of conscious purity, and wash our hands in innocency, from the united motives of inclination and duty.
- "Give us, O thou Parent of knowledge, a love of learning, and a taste for the pure and sublime pleasures of the understanding; improve our memory, quicken our apprehension, and grant that we may lay up such a store of learning, as may fit us for the station to which it shall please thee to call us; and enable us to make great advances in virtue and religion, and shine, as lights in the world, by the influence of a good example.
- "Give us grace to be diligent in our studies, and that whatever we read we may strongly mark, and inwardly digest.
- "Bless our parents, guardians, and instructors; and grant that we may make them the best return in our power, for giving us opportunities of improvement, and for all their care and attention to our welfare. They ask no return, but that we should make use of those opportunities, and co-operate with their endeavours. O, grant that we may not disappoint their anxious expectations.
- "Assist us mercifully, O Lord, that we may immediately engage in the studies and duties of the day, and go through them cheerfully, diligently, and successfully.
- "Accept our endeavours, and pardon our defects, through the merits of our blessed Saviour, Jesus Christ our Lord. Amen.

#### AN

#### EVENING PRAYER.

- "O ALMIGHTY God! again we approach thy mercy-seat, to offer unto thee our thanks and praises, for the blessings and protection afforded us this day; and humbly to implore thy pardon for our manifold transgressions.
- "Grant that the words of various instruction, which we have heard or read this day, may be so inwardly grafted in our hearts and memories, as to bring forth the fruits of learning and virtue.
- "Grant that, as we recline on our pillows, we may call to mind the transactions of the day, condemn those things of which our conscience accuses us, and make and keep resolutions of amendment.
- "Grant that thy holy angels may watch over us this night, and guard us from temptation, excluding all improper thoughts, and filling our breasts with the purest sentiments of piety. Like, as the hart panteth for the water brook, so let our souls thirst for thee, O Lord, and for whatever is excellent and beautiful in learning and behaviour.

- "Correct, by the sweet influence of Christian charity, the irregularities of our temper; and restrain every tendency to ingratitude, and to ill usage of our parents, teachers, pastors, and masters. Teach us to know the value of a good education, and to be thankful to those, who labor in the improvement of our minds and morals. Give us grace to be reverent to our superiors, gentle to our equals or inferiors, and benevolent to all mankind. Elevate and enlarge our sentiments, and let our conduct be regulated by right reason, attended with Christian charity, and that peculiar generosity of mind, which becomes a liberal scholar and a sincere Christian.
- "O Lord, bestow upon us whatever may be good for us, even though we should omit to pray for it: and avert whatever is hurtful, though in the blindness of our hearts we should desire it.
- "Into thy hands we resign ourselves, as we retire to rest; hoping, by thy mercy, to rise again with renewed spirits, to go through the business of the morrow, and to prepare ourselves for this life, and for a blessed immortality, which we ardently hope to attain, through the merits and intercession of thy Son, our Saviour, Jesus Christ. Amen."

#### SHORT HISTORY

OF THE

## ORIGIN AND PROGRESS

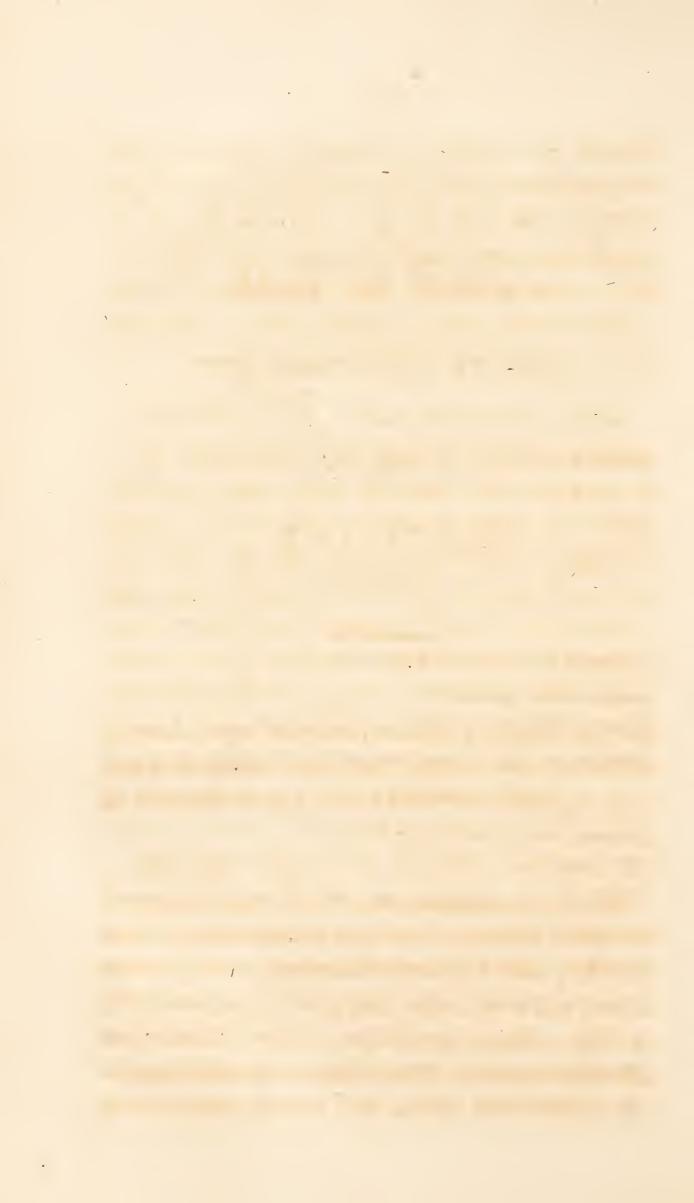
OF

### MEDICINE.

- " Of the Most High cometh healing." Eccles. Ch. 38. V. 2.
- " Corporis curandi ars, atque utilitas
- " Deorum Immortalium consecrata est." Cic. Tusc. L. i.
- "Medicina Diis primum inventores suos assignavit, et cœlo dicavit."

  Plinii, Hist. Nat. Xxix. 1.
- "O blessed health! thou art above all gold and treasure; 'tis thou who enlargest the soul, and openest all its powers to receive instruction and to relish virtue."

  Sterne.



#### SHORT HISTORY

OF

#### THE ORIGIN AND PROGRESS

OF

#### MEDICINE.

In the simplicity of the patriarchal ages, there is reason to suppose that the human constitution was more vigorous and healthy, and less susceptible of disease, than it has since been.

At the commencement of this most important branch of learning, sick persons were brought out into the public highways and streets, to engage the notice, and receive the advice, of such passengers, as had sufficient knowledge to direct them to an efficacious remedy. When this was sufficiently ascertained, both the disease and remedy were written

on the walls of temples, to which the afflicted might resort; so far, therefore, the rise and progress of this art was the result of trial and of proof. The skill of the first practitioners was, accordingly, that of experience, and themselves were stiled *Empirics*, a title, which, in the present day, is most unjustly degraded from the honor of its primary application.

To Æsculapius, the son of Apollo, heathen mythology has given the name of the God of Physic: he is made to wear a crown of laurel, and hold a knotted staff; by the former is signified the virtue of that leaf, and by the latter is pointed out the difficulty of his art. The fable proceeds to tell us, that he was killed with a stroke of thunder, by command of Jupiter; to whom Pluto complained, that both his revenue and subjects were much diminished, in consequence of the wonderful powers and success of this renowned deity.

Although Egypt was, in other instances, the famous nursery of arts and sciences, yet in Medicine, no person was allowed to deviate from the rules of cure preserved in sacred books, and kept in the temples: every physician, in that country, was confined to the cure of one disease, and was not suffered to try his skill in any other; and among the practitioners were Priests, and even Kings!

In India, to the present day, the Bramins, who, from their birth, belong to the order of priesthood, are also the physicians; and it may not be unseasonably observed, in this place, that no longer ago than the twelfth century, the practice of medicine, in our own country, was in the hands of its clergy for nearly three hundred years!

Surely the reflection here occurs, that our blessed Lord and Saviour employed a great part of his own miraculous life, not in the affairs of state, which he avoided,—not in matters of law, about which he refused to concern himself,—but "in going about and doing good;" in speaking health to the body, and salvation to the soul. Be it remembered also, that in receiving from their Divine Master the authority to "preach," his disciples are expressly charged, at the same time, to "heal all manner of sickness, and all manner of disease."

In the early times of Greece, the origin of disease was ascribed to the Deity, and the cure was to be attempted by appeasing his wrath; hence Homer, in speaking of the plague, which reigned in the Grecian camp, does not make mention, that human endeavours were employed to counteracits fatal ravage; the only advice, on this occasion is, let,

- Some prophet, or some sacred sage,
- " Explore the cause of great Apollo's rage;
- " Or learn the wasteful vengeance to remove
- " By mystic dreams; for dreams descend from Jove,
- 46 If broken vows this heavy curse have laid,
- " Let altars smoke, and hecatombs be paid;
- " So heav'n aton'd shall dying Greece restore,
- " And Phœbus dart his burning shafts no more,"

The exact time, in which Medicine began to be formally exercised as a profession, cannot be correctly known; all the accounts, which have been transmitted on this subject, before the time of Hippocrates, are either fabulous, or uncertain.

Hippocrates was a native of Greece, and florished about four hundred years before the Christian era. He delivered Athens from a ravaging pestilence, at the beginning of the Peloponnesian war; for which, besides other honors, he was publicly rewarded with a golden crown! Hippocrates has been esteemed for many ages as the standard of authority and imitation; his aphorisms, or physical maxims, are particularly celebrated; his watchful attentions to the inclinations of the patient, and the progress of disease; his judicious remarks, consummate knowledge, and skilful management, under all its variety of character, have justly handed him down to posterity, as—the nurse of nature,—the father of the healing art,—the Homer of his profession!

After him succeeded several other physicians; among the most eminent of these, were Galen and Aretæus, who wrote in Greek, and have ably commented and improved on the writings of Hippocrates.

Oribasius, a celebrated writer, physician to Julian the apostate, reduced into a regular system the works of all the respectable writers in physic, that he might explain, in one volume, the sentiments of all preceding physicians: this he did at the request of the Emperor.

Cornelius Celsus, (not the infidel Celsus,) besides eight books on Medicine, wrote on several other subjects: he lived under the reigns of Augustus and Tiberius; he has been called the Latin Hippocrates, and is considered as the most classical writer, that ever wrote on Medicine. Pliny, although no physician himself, yet collected what he could out of some thousands of volumes, of importance to Medicine, for the purpose of enriching his natural history; and here the Romans left off; for those who now wrote in the Latin tongue were of all nations. After the Grecian physicians had florished, the arms of Mahomet prevailed, science was much suppressed in the East, and a long chasm darkened the West by a torrent of Northern invaders.

The Arabians now took the lead in physic, and among those, Rhazes was the most eminent: he wrote about the time of the twelfth century on every branch of Medicine, and was the first who had accurately described that most loathsome disease, the small-pox; let us hope, however, that since the finger of the Almighty has so clearly pointed out a remedy against it, through the easy and safe process of Vaccine Inoculation, that so horrid a distemper will not be suffered to continue the scourge of the human race; but that it may be our wisdom to receive, and our gratitude to acknowledge, this great dispensation of mercy;—but more on this subject in its proper place.

About the middle of the fifteenth century, learning began to resuscitate, and happily diffuse itself throughout Europe. The art of printing was now understood, and a path to every sort of knowledge was consequently thrown open. Such luminaries as Bacon, Boyle, Newton, and Locke, scattered around the benighted world their cheerful rays of light, which could not fail to animate and direct the inquiring candidate for fame to the richest mines of universal knowledge.

Through that memorable epoch in the annals of Medicine, the discovery of the circulation of the blood, in the beginning of the seventeenth century.

the errors of former opinions were exploded, rational theories in every department of medical science were quickly adopted, and on those were grafted progressive and wonderful improvements.

Thus have Philosophy and Medicine been mutually cherished, and led on by the valuable and conjoint labors of authors and physicians of every age and country.

These streams, unlike others, are become more pure from their remoteness to the spring; for they have not merely left behind their gross and turbid parts; but, in coming down to us, have been impregnated with the salubrious productions of Sydenham, Boeerhave, Mead, Friend, and many others; and these have again been amplified and invigorated by meeting and mingling with new materials, and proportioned strength, from the unwearied assiduities, eminent attainments, and liberal communications, of medical characters of this enlightened day.

# ANATOMY.

THE person who is skilled in the art of dissecting, and acquainted with the situation, figure, connexions, fabric, actions, and uses of the several parts of the body, and is capable of imparting that knowledge to others by demonstration, is called an Anatomist.

What geography is to the historian, the same, in a much greater degree, is Anatomy to the physician, but especially to the surgeon.

The examination of the brute creation in this manner, for the purpose of better understanding our own, is called *Zootomy*, or, Comparative Anatomy.

The sources, from which the knowledge of anatomy sprang, are numerous: in the earliest ages of

the world, animals were sacrificed to the Deity, and in the performance of this duty, observation and skill were necessary to separate those parts which were acceptable in the sacrifice, from those which were prohibited.

From Hippocrates is to be collected all the information of the ancients on the subject of Anatomy... After him, this art continued but with slow advances of improvement, through the prejudices of mankind, and was chiefly confined to the two schools of Athens and Alexandria. Aristotle, who lived about three hundred and sixty years before Christ, was induced by the generosity of Alexander the Great, to whom he was Preceptor, to write upon Anatomy, but chiefly on that which related to different sorts of animals. Diocles Caryolius lived soon after him, and appears, according to Galen, to have been the first author who wrote on the method of dissecting bodies; from hence he is entitled to very eminent rank among the primitive Anatomists; but as his works were destroyed by the conflagration of the Alexandrian library, his name is but seldom mentioned.

Under the protection of the Ptolemies, at Alexandria, this study was much encouraged. The successors of Alexander on the Egyptian throne, were all patrons of letters and arts; and this city

continued, for many centuries, a renowned school of Medicine, and especially of Anatomy, to both Greece and Rome, and produced such eminent men in that knowledge as Erasistratus and Herophilus, who are mentioned to be the very first, who actually performed dissection on the human body; the latter of whom is highly commended by Pliny, Cicero, and Plutarch.

The celebrated Galen brought into one point of view all the medical and philosophical science of his predecessors; and in the works of this eminent writer, Anatomy appears very consistent and methodical.

From his time to the fifteenth century, Anatomy was rather on the decline; but in the sixteenth century was ably cultivated and revived by the great Vesalius, a native of Brussels. The full knowledge of the absorbent system has, however, been reserved, to reward the diligence, and to confer important honor on the name, of Hewson, and the Anatomists of the present century.

# SURGERY

Is that branch of medical art, which treats in general of outward diseases, and injuries, and is confined to manual operation; as the word literally signifies—the work of the hand. Not more than two centuries ago, this most valuable part of the profession was usurped, even in our own country, by barbers and farriers; but, happily for mankind, it is now rescued from them, and placed in very different hands; and while we cannot withhold the praise that is due to surgeons of other nations, it would be the greatest injustice, and the most unpardonable ingratitude, not to speak in language of warmest commendation, and terms of loftiest national pride, when estimating the very important services, and splendid talents, of those of our own country.

# BOTANY.

This branch of learning is very ancient. Holy writ hath recorded of Solomon, that, He spake of trees, from the cedar tree that is in Lebanon, even unto the hyssop, that springeth out of the wall.

The range of Botany is very wide and extensive, from the small moss and the fungi, which are intermixed with the common grass, to the towering pine, and the majestic oak. The various kinds of grass, which cover the earth, the flowers of all hues and forms, which exhale the most fragrant odors, beautiful shrubs, and stately trees, are all the subjects of the dominions of Flora. The collections of new plants within the last three hundred years, from every region of the globe, are, in point of number, prodigious!

Not many years ago, Sir Charles Linnæus, a Swede, the father of modern Botany, published a new and popular system of Botanical arrangements.

Linnæus has divided the vegetable world into twenty-four classes, and these classes, again, into about an hundred and twenty orders; these contain about two thousand families, or genera, and these families about twenty thousand species, besides innumerable varieties, which the accidents of climate, or cultivation, may have added to their species.

The Linnæan system has obtained the name of the sexual system, from a distinction made in plants, as in animals, of male and female.

The science of Botany certainly holds a most important station, when made subservient to the purposes of medicine: it has also some relation to arts and sciences, among which may be enumerated those of painting and dying, but especially the advantages of agriculture.

This study, likewise, may be of the utmost importance, on some pressing occasions, in the selection of vegetable food. Many animals, it is asserted, are endowed with an instinctive faculty of distinguishing with certainty, whether food presented to them be salutary or injurious. Mankind have no such instinct. The traveller is sometimes, by the smell and taste of fruits, tempted to eat those that are poisonous; and this, it seems, has really happened to many Europeans, who, in trading to the East and West Indies, have fallen sacrifices to their total ignorance of the nature of plants, when they have been cast away on some desert island, and compelled to make use of a selection of vegetable food.

Now, if the whole of Botany were as complete as some of its parts, a very moderate acquaintance with it would be sufficient to guard against such fatal mistakes: for example, if a person, so far taught in Botany, perceived the flower of a plant, whose calix is a double-valved glume, with three stamina, two pistils, and one naked seed, he could pronounce, with absolute certainty, that the plant, from which the flower was taken, bears seeds of a farinaceous quality, and consequently may be safely used for food. In like manner, show him a flower, with ten or twelve stamina, all inserted in the inside of the calix, he can with certainty pronounce, that the fruit of it is wholesome; or, on the other hand, show him one, whose flower has five stamina, one pistil, one petal, or flower leaf, and whose fruit is of the berry kind, he cannot hesitate to pronounce it to be poisonous. Information, and facts like these, make this science both important and respectable; but with truth it may be asserted, that the study of Botany has not re-produced, has not made a return to the community, for a long time past, of any thing, that can be considered as

an adequate compensation for the expenditure of time and money, which have been so freely lavished on it. If the bombastic names, which are given to divers plants and flowers, could atone for this defect, and infuse into them some specific excellence, which more simple designations could not convey, then, indeed, a sufficient apology might be offered for the selection of such pedantic names, for the purpose of gratifying individual caprice, or vanity; and the powers of articulation might be reconciled to such lengthened duty.

The drawings of different plants and flowers, principally with a view to amuse the eye, are likewise become too various and expensive for general accommodation. Another discouragement, which operates against the study of Botany, is, the endless genealogies and tribes, the jargon of divisions and subdivisions of classes, order, genera, and species! A French Botanist ranked together such plants as were similar in flower and fruit, and they amounted to six hundred and ninety-eight genera; and the difference in the root, stalks, and leaves, constituted the different species, which amounted to no less a number than TEN THOUSAND TWO HUNDRED AND TWO! If human patience is not exhausted with a play-thing like this,—the pittance of human life must not allow so great a

sacrifice of time, nor be diverted from pursuits that are more valuable.

The whole tribe of vegetables, or plants, may be divided into three sorts,—herbs, shrubs, and trees.

Herbs are those plants, whose stalks are soft, and have nothing woody in them, as grass, sowthistle, and hemlock. All shrubs and trees have wood in them; but shrubs do not grow so high as trees: thus gooseberries and currants are shrubs; oaks and cherries are trees.

Almost every plant has stalk, leaves, flower, and seed; the exceptions to this observation are very few; but there is scarcely any plant without seed or flower. The process of nature in the nourishment and propagation of vegetables is worthy of particular notice, and is thus explained.—The small and tender fibres of the roots, which are spread under ground, imbibe, from its moisture, sufficient juice for their nourishment; this sap is conveyed by the stalk up into the branches and leaves, through little, and in some plants, imperceptible, tubes, and from thence, by the bark, returns again to the roots; so that there is in vegetables, as well as in animals, a circulation of the vital fluid; by what impulse this is effected, may

not be easy to explain; but probability favors the opinion, that it is in consequence of the difference of day and night, and other changes in the air; for the heat dilating, and the cold contracting, those little tubes, especially if there be valves in them, it may be readily imagined how this circulation is carried on. Nature has also provided, in several ways, for the propagation of plants, but principally by seeds, roots, and grafting. What grafting is in vegetables, the same thing in animals is termed, crossing the breed.

The person, who makes two blades of grass to grow on the spot where hitherto there had been only one, deserves the thanks of the public; but he, who makes one animal devour the produce of that, which formerly was sufficient for two, cannot, surely, in this matter, especially in times of scarcity, be considered as doing any benefit to society.

To what generally useful purpose is the endeavour, which has so much prevailed, to interrupt the ordinary growth of animals—to gorge them with food—to make them monsters in appearance—to overload them with fat, and hence to afflict them with disease?

Our sheep, hitherto of comely shape, of sweet pasturage, and delicious flavor, are now rendered,

in consequence of such modern eccentricities, inconvenient in size for the purposes of the table, the flesh is coarse in texture, rank in flavor, wasteful in dressing, and even disgusting to the eye!

What advantage, it may be fairly asked, can possibly result from a fashion so manifestly injurious, that will be sufficient to set aside these well-grounded complaints!

Is it, as some have alleged, to reduce the quantity of bone, and make the animal support a heavy burden of flesh? Without making any observation on the cruelty of such an act to the comfort and feelings of the poor brute—of disturbing the laws and proportion of nature, we will only notice the absurdity of such a design, by comparing it with that of some silly architect, who made slender beams for his building, but imposed on them the heaviest load!

Again we ask, is the quality of the wool improved by it? or, from such management, is the meat of the animal sold cheaper in the markets?

Ye graziers, ye butchers, and all others, whom it may concern, to these plain questions, vouch-safe, we entreat you, to give the candid answer!

### CHEMISTRY.

THE antiquity of this science may be traced as far back as the days of Tubal-cain, who is mentioned, in the sacred page, to have been "An instructor of every artificer in brass and iron." Gen. iv. 22.

Chemistry, according to the most probable opinion of that word, is derived from an Arabic term, which signifies to conceal, and seems to have reference to the profound secrecy observed by those persons, who, in the fourth century, under the name of Alchymists, pretended to a knowledge of the transmutation of metals, and even of changing the baser sort of them into gold; as likewise of having discovered an elixir, which could insure the prolongation of human life. These absurd declarations were maintained by Paracelsus, in the sixteenth century, who had expected, that by the use of this elixir, he should live to the age of Methuselah; contrary, however, to this prediction, it so happened,

that this famous Swiss physician did not imbibe the virtues of longevity, which he had so vainly arrogated, but died after a few days illness, in the forty-eighth year of his age.

During the last, but especially in the present century, the science of Chemistry has been studied by persons almost of every rank and condition, and has attained to very distinguished eminence. Chemistry has been well defined as a science, which discovers the constituent principles of bodies, the results of their various combinations, and the laws by which those combinations are affected; considered in the most extensive view, it stands related to almost every art and manufacture, and forms a most important part of natural philosophy. Chemical inquiries are prosecuted by certain operations, which are done either by analysis, or decomposition, and by synthesis, or composition; these operations depend on the affinities or powers of attraction, which act on bodies, and on their elementary parts.

As a proper knowledge of this interesting science cannot be obtained without experimental process, or demonstration, every one, who is desirous of cultivating it, should by no means neglect to attend the lectures, which are constantly given in the metropolis, and other places of instruction, on this most useful and sublime study: in the mean time a

cursory survey of its general features must answer the design of this chapter.

The four elements of nature have hitherto been called Earth, Air, Fire, and Water. From the experiments, however, of some of the philosophers of the present day, it would appear, that water no longer retains the name of a simple element, but is to be considered as a compound body, since it is formed by the union of hydrogen and oxygen.

The productions of the earth are divided into three classes,—the Animal, Vegetable, and Mineral kingdoms.

The animal kingdom comprises every creature endued with life and sensation.

The mineral kingdom consists of such things as have neither life nor sensation, such as stones and metals.

Earths make up the solid part of our globe. Lime-stone, chalk, marble, or any earths that effervesce, are called calcareous.

Silicious earths are those, which chiefly form flint, rock, crystals, and many of the gems.

Argillaceous earths are clays, that harden in the fire, from which porcelain, or china work, is made.

Bodies are considered as simple, or compound; of the first description, are those which cannot be resolved into any thing more simple; and of the latter, those which consist of two or more of the primary elements, such, for instance, as the animal body, which is composed of earthy particles, and different fluids.

That branch, therefore, of philosophy, which examines the properties of these bodies by compounding, or decompounding them, belongs to the office of Chemistry.

The variety of changes which is produced by heat in bodies, is considered by some writers as only the consequence of mechanical changes in bodies, and it is most generally supposed that these effects depend on a certain matter termed, caloric, or, as that term imports, the matter of heat; it appears to be a highly elastic imponderable fluid, but so very subtile, that neither its gravity can be ascertained, nor even its existence can be demonstrated, in a simple and uncombined state. It is diffused copiously throughout all nature, and is the cause of fluidity; without this power the whole

matter of the world would be condensed into one solid mass.

By the elastic power of caloric it constantly tends to separate the particles of matter, against which the force of cohesion, or close compact of those particles, makes adequate resistance.

If the power of cohesion be the superior of the two, the body exists in a solid form; but, on the contrary, if the principle of heat sufficiently predominates to weaken or separate this cohesion; in such a case the body assumes a yielding and liquid form, and when the quantity of this caloric is still further increased, the body then takes a gaseous, aerial, and volatile form, and diffuses itself through such as are of a lower temperature.

Solution is the property of fluids, by which they incorporate themselves with solids—the sea, for instance, is a solution of salt in fresh water.

To separate fluid and volatile parts from bodies, and to receive them into vessels, by means of cold, is the business of distillation. To condense and collect in a solid form, by means of vessels properly constructed, the fumes of bodies raised from them by the application of proper heat, is called sublimation. Fluids are said to distil, and solids to sublime.

Precipitation is effected in fluids only, by disuniting two or more ingredients by the addition of some new matter, to which there is a greater affinity with the menstruum, than that already dissolved in it: the consequence is, that A is precipitated, is, as it were, divorced from the previous union, and generally falls to the bottom, to admit the greater favorite B in its room.

Affinity is a term of the greatest extent in Chemistry, but briefly means the tendency which the constituent parts of bodies have to unite readily with some substances in preference to others. Thus water and vinegar have affinity—but oil and water have none.

Calcination is effected by exposing a body to the action of fire, to produce some change in it, which is chiefly done in the evaporation of the air and watery principle; such, for instance, as in burning stones to convert them into quick-lime, and that which renders any substance, by means of fire, reducible to powder.

Saturation is a word which signifies, that a fluid has imbibed as much of any substance as it can dissolve; thus, if camphor be added to spirit of wine more than the menstruum can readily dissolve, the excess will fall to the bottom, because

the spirit was before saturated—had received enough, had not capacity to act on more, and therefore rejected it.

Surely so useful a lesson from the school of chemical, to that of moral philosophy, most forcibly points out to us, how loathsome to nature is excess in meats, drinks, or any other sensual indulgence.

A spontaneous motion, which is produced in all vegetable matter, when exposed for a sufficient time to a proper degree of temperature, is called fermentation; and when bodies are so far decomposed, as to part with their fixed air, and other component principles—it is then that putrefaction takes place.

#### ACIDS

Are mostly in a liquid; some, however, are in a solid form.

Sulphuric, or Vitriolic Acid, is fluid, transparent, and without color or smell; it is usually obtained from sulphur, by distillation or burning.

Nitric Acid, or Aqua Fortis, is a colorless liquid, emits brown vapors, has a pungent smell, is corrosive, its taste is extremely acid—readily dissolves most metals, and is extracted by distillation from nitre or saltpetre, moistened with vitriolic acid.

Muriatic Acid is extracted from common salt, by distillation with vitriolic acid; it smells like saffron, and is of a yellow color.

# ALKALIES

Are saline bodies, that freely combine and effervesce with acids. Fixt mineral alkali is obtained from sea salt—fixt vegetable alkali from vegetables and volatile alkali from animal substances.

# METALS.

Perfect or noble metals are those which undergo no oxidation in the furnace, and are three in number, namely, gold, platina, and silver: other metals, which suffer decomposition, such as copper, iron, tin, and lead, are on that account called imperfect, or base.

### PNEUMATICS.

The air is a thin fluid, which encompasses the globe of the earth on all sides. This body of air, together with the clouds and vapors that float in it, is called the atmosphere, and reaches about forty-five miles above the ground, when it becomes too thin an ether for any animal to breathe. The atmospheric air is said to consist of two principles, oxygen, or vital air, and azote, or nitrogen air, which latter is extremely noxious, being a very mixed assemblage of exhalations from every substance capable of being sublimed by the heat of the sun, and yet composes, it is imagined, so great a proportion as three parts in four of the common air.

But Providence, who orders all things well, has made the vegetation of plants to imbibe, and even to be nourished by this offending matter; the agitation of the waters, as seas, lakes, and rivers, contributes also to the purification of the air, and hence renders it wholesome for the purposes of animal life.

Besides the common atmospheric air, there are several others, to which modern Chemistry has given appropriate names; but of such gasses we shall only notice the more important. *Carbonic*, or fixed air, is produced in quantities, from the combustion of charcoal, for which reason it has been called gas sylvestre; from the noxious effects of this air it has obtained the epithet of mephitic, likewise azotic gas, and from other qualities which it possesses, is called carbonic acid; but the name by which it is chiefly known, is that of fixed air, from the circumstance, no doubt, of losing its elasticity, and fixing in several bodies.

This air is powerfully antiseptic, and resists putrefaction; vegetables, however, suffer, and animals are destroyed by it. In many cases it may with great advantage be introduced into the stomach and intestines, yet if breathed in sufficient quantity into the lungs, it becomes fatal.

This air is found at the bottom of pits, and rises from fermenting liquors, and abundantly so from brewers vats. No person can venture into those places where it is generated, without the hazard of death; the flame of a candle, on being introduced, is suddenly extinguished.

Inflammable air, or hydrogen gas, is the lightest of all the known airs; it may be obtained in several ways, but the common process is, by dissolving the filings of iron in diluted vitriolic acid. This air occupies the *upper* parts of subterraneous places, and has usually been found in mines and coal-pits, and is commonly known by the name of fire-damp; it is both dangerous and destructive. This air will take fire, and explode as gunpowder.

# ELECTRICITY

Is the property of certain bodies, in consequence of being rubbed, excited, or heated, to acquire a power of attracting or repelling other remote bodies, and of emitting sparks and streams of light.

Those bodies that contain the quality of electricity, are termed electrics; and those which obtain it only by communication with electrified bodies, are called non-electrics. When a body has more

electric fire forced into it than it has naturally, such body is then said to be electrified positively; but when part of that natural quantity has been taken away, it is then understood to be electrified negatively; or when different substances are rubbed together, that whose electricity is the stronger, acquires the positive, and the other the negative, property.

Glass, air, silk, and gums, are non-conductors, and called electrics; but metals, water, green wood, and most animal and vegetable substances are conductors, and therefore non-electrics; for it is a general maxim in Electricity, that all the known bodies in nature are divided into two classes: experiments showing that whatever substance is a conductor of Electricity, cannot be excited, and that whatever substance can be excited, is not a conductor. This maxim, however, may not in all respects be considered as strictly true; for, perhaps, there is not in reality any substance that may be termed either as a perfect electric, or a perfect conductor. The electric power, observed by the ancients in amber, was, in process of time, found in divers other bodies. The cause of thunder and lightning, which puzzled and alarmed them, has, through a sufficient knowledge of this science, been satisfactorily explained by modern writers; for till within the last century very little was known on the subject of Electricity.

From experiments it appears, that lightning is electrical fire, drawn from the clouds. A cloud prepared by heat, or exhalation, is the electric body, and watery clouds, or terrestrial matter, the nonelectrics, which excite it; if, therefore, two clouds meet together, charged with unequal portions of this fire, the cloud which has the greater share will deposit its excess into the cloud which has not so much, and by a flash of lightning endeavour to restore an equilibrium: this fire driving to a distance the air that surrounds it, and the stroke formed by the return of that air, echoed from the inequalities on the surface of the earth, in like manner as the noise of a cannon is echoed, occasions the awful voice of thunder, and under particular circumstances forms its rolling lengthened sound, or distance, may be estimated by the interval of time between the flash and the noise; the difference between the two is usually about seven seconds, which at the rate of eleven hundred and forty-two feet in a second, gives the distance about a mile and a half, but sometimes it comes in a second or two, which proves that the explosion is very near us.

With respect to personal security, during this conflict of the elements, the celebrated Dr. Franklin, who has written so ably on the subject of Electricity, advises persons, where the house is not

furnished with a proper conductor, not to stand near places where there is any metal, as chimneys, gilt frames, iron casements, or such like, but to go into the middle of the room, and endeavour to stand, or sit, upon the best non-conductor that can be found at hand, such as an old chair, a stool, &c. it is safer still, says he, to bring two or three mattresses, or beds, in the middle of the room, and folding them up double, put the chair upon them; for as they are not so good conductors as the walls, the lightning will not choose an interrupted course through the air of the room and the bedding, when it can go through a better conductor, which is the wall; but where it can be had, observes this philosopher, a hammock, or swinging bed, suspended by silk cords, equally distant from the walls on every side, and from the cieling and floor above and below, affords the safest situation a person can have in any room whatever, and what indeed may be deemed quite free from danger of any stroke by lightning.

If, however, these retreats are not at hand, it may be adviseable, during a thunder storm, to descend into a cellar; for when a person is beneath the surface of the earth, the lightning must strike that before it can reach the individual, and the probability is, that it will then have been expended on the earth.

If a storm should happen whilst a person is in the open fields, and far from any building, the best thing he can do is to retire within a small distance of the highest tree, or trees, which he can reach; but on no account must venture quite near to them; he should keep away at least fifteen, or twenty feet from the outermost branches; for, if the lightning should fall thereabout, it will, in all probability, strike the trees; and if one of them were to split, at that distance from it he would, with such precaution, be free from danger. It should be, moreover, observed, wherever electric clouds pass, that spires, towers, chimneys, and high trees, as so many points, draw the electric fire, and the whole cloud frequently discharges on such places; but this seldom happens in wet or moist weather, for the electrical fluid always goes the nearest way, and chooses the best conductors, and the air, in such weather, conducts it insensibly to the earth.—Thunder and lightning most commonly happen after an interval of dry weather; when the air, in that state, being a nonconductor, will not allow the electric matter to pass to the earth without great difficulty. Rain is a safeguard in another respect; by wetting the body, it is instrumental to preserve lives; for if the clothes be thoroughly wet, and a flash of lightning strike the top of the head, it will run in the water over the surface of the body into the

ground; whereas, if the clothes were not wet, it would go through the body.

From all these circumstances, and from the certainty that the electric fire will, in every instance, make its passage to the earth, by that medium where it meets the least resistance, the use of pointed conducting rods, when properly managed, as a security to buildings from the effects of lightning, has been very justly recommended; but particular care must be taken that they do not rust, and so hinder a free conveyance of the electric fluid, and thus increase, instead of lessening, the danger; for the electric matter having been partially invited, and especially if accumulated in any quantity, will dart towards that place, and shatter every thing to pieces which resists its passage, or where the communication of a conductor is interrupted.

Let it not be objected by any rational or christian person, that this precaution would imply a want of confidence in the goodness or wisdom of the Almighty! Happy are we to acknowledge with gratitude and veneration, that He is the maker and the governor of the universe; but we know, likewise, that he chooses to govern in the material world by second causes, and that in this, as well as in other resources against danger, it is our duty to

employ all the probable means, which he has mercifully vouchsafed to us to attain every lawful end.

With respect to Electricity, as it applies to the purposes of medicine, there have been many opinions. From disappointment in expectations, which in some may have been too sanguine, and in others too lukewarm; the use of medical Electricity, for want of sufficient trial and perseverance, may not, to the present moment, have been duly ascertained: it gives and preserves, says Bishop Berkley, a proper tone to the vessels; it promotes all secretions, keeping every part in motion; it pervades the whole animal system, producing great variety of effects, various vibrations in the solids, and ferments in the fluids; indeed, it is sufficiently ascertained that Electricity communicates activity and motion to fluids in general, and particularly accelerates the motion of blood in the human body. A variety of electrical machines have been invented, and on different constructions, for philosophical experiments, and medical uses.

# GALVANISM.

This is a term used to denote the influence of metals, by mere external contact with the animal body. In the year 1791, Dr. Galvani, of Bologna, (from whom it was called Galvanism,) made known to the scientific world, that a frog, when dead, and the skin taken from it, is capable of having the muscles brought into action by means of this species of Electricity.

The most effectual way of producing these movements is, by the application of two metals, of which silver and zinc are usually preferred; or, a pile may be made with alternate metals of copper and zinc, and round pieces of cloth, or leather, moistened in a solution of sal ammoniac, and interposed between each metal, and wires made to come from the top and bottom pieces into water;

one will discharge oxygen, and the other hydrogen, gas, and if a person take hold of the bottom wire with one hand, and touch the upper one with another wire, he will feel an electric shock.

Galvanic batteries have been constructed in a variety of shapes, and admit of much diversity.

#### GENERAL DESCRIPTION

OF

#### THE INTERNAL PARTS

OF THE

### HUMAN BODY.

The heart is the great muscular engine, which circulates the blood throughout the whole body, and is contained in a membranous sac, called the pericardium, situated nearly in the middle of the breast, between the lungs; its action consists in the alternate contraction and dilatation of the auricles and ventricles, and continues in this wonderful exercise, without interruption, to the latest period of life.

Within the cavities of the thorax, or chest, are placed the lungs, by which we breathe; they are divided into right and left lung, the right has three lobes, the left only two. The lungs alternately

open and shut, something after the manner of a pair of bellows; when inflated, they resemble the hoof of an ox.

The abdomen is separated from the chest by the diaphragm, or what is usually called the midriff; the use of which is to aid the powers of inspiration and expiration, and help the abdominal muscles in the expulsion of secretion and excretion. The abdomen is lined with a smooth delicate membrane, called the peritoneum, and contains the omentum, stomach, the small and large intestines, liver, gall, bladder, and other viscera, or parts.

The stomach is a membranous receptacle for food, and resembles in shape the pouch of a bagpipe; the superior opening to it is called the cardia, and the inferior opening is named the pylorus, which opens into the intestines. The stomach, says a very sensible writer, is the chief organ of the human system, upon the state of which all the powers and feelings of the individual depend; it is, what has been very aptly termed, the kitchen, that prepares our discordant food, and which, after due maceration, it delivers over to the intestines, where it receives a further concretion. Being now reduced into a white balmy fluid, it is sucked up by a set of small vessels, called lacteals, and carried to the thoracic duct; from this small tube it is dis-

charged into the left subclavian vein, when, mixing with the general mass of blood, very soon itself becomes that fluid.

Digestion is that change which the food undergoes, by which it is converted into chyle. The circumstances necessary to effect a healthy digestion of food are, a proper degree of heat of the stomach, a free mixture of saliva with the food in the mouth, a certain quantity of healthy gastric juice.

The liver is the largest of all the abdominal viscera, and is placed immediately below the diaphragm, on the right side. This viscus secretes bile from the blood, and is received into a little bag attached to it, called the gall bladder, which in print, or figure, very much resembles a pear. On a due secretion of the bile depend the most important concerns of health.

In the lower part of the abdomen are situated the intestines, or guts, which may be termed one continued sort of canal, variously contorted, and is six times larger than the body; it is divided into small and large intestines. The use of the intestines is to complete the first digestion, and by their peristaltic motion to carry off the fæces. At the end of the mouth is a membranous bag, called the

pharynx, and where begins the œsophagus, or gullet, which conveys food into the stomach. There is also another tube, named the trachea, or windpipe, the superior part of which is called the larynx: the use of the latter is to form the voice, and its variety of modifications; when any substance falls into this tube it occasions the utmost distress, till the matter is thrown up again; to guard, however, as much as possible, against such accidents, nature has provided it with a small valve, that, while it readily admits the passage of air, defends it from the admission of extraneous matter, which might otherwise dangerously irritate the lungs and air vessels. The trachea descends from the larynx in the anterior part of the neck, before the œsophagus, into the thorax, where it divides into two branches, called 66 bronchia,"

Besides these parts, each of which has a determined place, there are others that are dispersed over the whole body—such as the nerves, brain, arteries, veins, and muscles. Nerves are long whitish pulpy cords, composed of bundles, which serve for sensation.

The origin of the nerves of the body is from the cerebrum—the cerebellum—medulla oblongata—and medulla spinalis—those which arise from the three first are called cerebral nerves, and those from the latter spinal nerves; all the other nerves of the body arise from these. Nerves are the organs of sensation, and constitute those of the five external senses.

The most important functions of the animal body are those of the brain; if a nerve be tied, or compressed, the muscles to which that nerve goes become paralytic. If any part of the brain be irritated, dreadful convulsions take place all over the body; if any part of the brain be compressed, that part of the body is deprived of motion which is supplied with nerves from the compressed part.

From all this it appears that the cause of every sensation and motion, in an animal body, arises from the brain and spinal marrow; the manner, however, in which the nerves exercise these properties, has been the subject of much curious investigation, but still remains to baffle all human research.

The arteries, by the impulse of blood from the ventricles of the heart, are dilated and irritated; and, by means of their muscular coat, contract upon the blood, and thus propel it to every part of the body for nutrition and secretion, and then into the veins.

Veins are membranous canals, which do not pulsate as arteries do; they gradually become larger

as they advance toward the heart, in which they terminate, and bring back the blood from the arteries.

Bones are hard, compact, and insensible substances, composed of animal earth and gluten, which support and form the stature of the body, defend the viscera, and give adhesion to its muscles, and these consist of bundles of fleshy fibres; which have the power of contracting and lengthening, and are the chief instruments of voluntary motion.

The whole body is full of pores, so small as not to be perceived by the naked eye, and through these is constantly exuding a subtile matter, called insensible perspiration.

A thousand other operations are carried on in the animal machine, which are not of sufficient importance to be detailed here, and they may be considered only as secondary agents to the stomach and intestines. Were it possible for us to look through the skin and integuments, as a watch-maker does when he examines a watch, we should be struck with awe and veneration!

How nice and complicate a machinery must that be, upon which the several functions necessary to existence depend! What a multitude of concurring causes are requisite to keep up the vital system! how many parts must conjointly operate to carry on the process of life for the shortest period of time!

Observe the heart pumping at the centre of the body at the rate of eighty strokes in a minute; one set of pipes carrying the stream away from it, another set bringing in its course the fluid back to it again; the lungs performing their elaborate office, viz. distending and contracting their many thousand vesicles, by a reciprocation, which cannot cease for a minute; the stomach exercising its powerful chemistry; the bowels silently propelling the changed aliment, collecting from it as it proceeds, and transmitting to the blood an incessant supply of prepared and assimilated nourishment; that blood pursuing its course; the liver, the kidneys, the parotid, with many other known and distinguished glands, drawing off from it all the while their proper secretions. Think of this, and then observe how the body itself, the case which holds this machinery, is rolled, and jolted, and tossed about; the mechanism remaining unhurt, and with very little molestation, even of its nicest motions: observe this, and then reflect how firmly every part must be secured—how carefully surrounded—how well tied down and packed together by nature's appropriate cordage of cartilage and ligaments!

- With awful joy I view this frame of mine,
- " Stupendous monument of pow'r divine."

Thou hast possessed, or formed my reins, says the holy Psalmist; thou hast covered me in my mother's womb. I will praise thee; for I am fearfully and wonderfully made: marvellous are thy works; and that my soul knoweth right well.

That God seeth in darkness, and that from him nothing is hidden, his knowledge of, and power over, our most inward parts plainly show. He "formed," and he therefore possesseth, as his own property, our "reins," and is consequently privy to all those affections and desires which flow from thence. The Hebrews ascribe to the reins, or kidneys, knowledge, such as joy, pain, and pleasure; hence, in the scripture, it is often said, that "God searcheth the hearts and the reins."

## DISEASES.

Nor more in the treatment, than in the phraseology, or definition, of what constitutes disease, have medical writers differed. With such contentions before us, we cannot do better than adopt the short explanation of good old father Hippocrates, and say with him, that "Disease is that which afflicts a man;" if, however, conformably to the usage of the present day, we must be a little more explicit on this head, it cannot be better attempted, than in the words of an author, who has endeavoured, he says, to obviate all difficulties arising from such perplexity, and comprehend the meaning of the whole.

Accordingly, we are informed by him, that disease is a preter or super-natural affection of some part or parts, or the whole of the machine, by which the system is injured and disturbed; or the action of a part impeded, perverted, or destroyed,

attended with peculiar 'symptoms, adapted to the nature of the affection, and parts affected; or appearances deviating from health, from some general or partial affection, by which the system in general, or in part, is oppressed or disfigured.

The human body is represented to be neither more nor less than an instrument, upon which nature plays her various operations, for the purposes for which the machine was created, and disease is only a defect, or imperfection, in that instrument, occasioned by some material or mental cause, inherent or accidental, and not to a deficiency of nature, which, universally considered, appears to be an agent of Divine Providence, endowed with limited powers, which she exercises for the formation of bodies, and other particular purposes, in order to promote the ends for which they were ordained; —that she cannot transgress those bounds, and that in herself she is ever perfect; and when any imperfections happen in bodies, either in the animal, vegetable, or mineral kingdoms, they are owing to some circumstances in which those bodies are placed, or with which they are connected, and not to any defect in nature.

This is nature considered in the most general sense; but when we apply the term to particular bodies, something else seems necessarily included

in the definitions respecting and peculiar to those bodies. In this manner applied to the human machine, we would say, that by nature is to be understood, the powers inherent in the constitution, or vital principle; the action only ceases in consequence of the vascular rupture, because the circulation of the blood, for want of vascular continuation, is destroyed by this accident; the defect lies then in the instrument in which these inherent powers reside, and on which this principle asserts its action, and not in the powers, or principles, themselves; and this reasoning will apply to every species of disease.

As truth, brevity, and clearness of description, shall be the ruling principles of our dissertation; we cannot, of course, enter into the endless controversies of practitioners, either on the theory, or the cure, of diseases. A celebrated writer, not long ago, collected into one universal catalogue the names of different medical writers; and, notwithstanding the circumstance of numerous omissions, they exceeded the number of thirty thousand!

Far be it, however, from such an heterogeneous mixture of assertion and contradiction, to which every thing that is good, our holy religion itself, is liable, to insinuate any thing like discouragement to liberal and candid investigation, on such impor-

tant inquiries as those of life and health; but ingenious theories are of no use to the sick and afflicted, unless they have an obvious tendency to their relief.

If the professors of medicine sought rather to be distinguished by the simple narrative and treatment of diseases, than by engaging in hypothetical controversies, and tedious discriminations of them, and often on comparatively unimportant matters, they would instruct more, and puzzle less.

Of the "Materia Medica," or whatever is used in medicine for the prevention and cure of maladies, we have, except from its mechanical effects, very little knowledge. Aptly, therefore, did the person, in Moliere's Medical Candidate for a Doctor's Cap, reply to the professor, who thus interrogates him, 66 Cur opium facit dormire?" i. e. by what power does opium induce sleep?—He shrewdly answers— " Quia habet vim dormitivam," i. e. because it has a somniferous property. Discussions of this nature are not only unprofitable in themselves, but what is of more consequence, they are apt to divert the mind from investigations of real benefit to mankind, to excite a spirit of contention, to bewilder and fatigue the student, and to attach to the godlike science of medicine the unmerited character of ignorance or imposition. An opinion

not less unjust, though of a different nature, has been cherished by a misinformed few, that the physician and apothecary reciprocally contrive to promote each other's interest, in making a complete job of the patient: the physician, by ordering more medicines than are proper, and the apothecary, in return, for urging the physician to be called in, when it is not absolutely necessary—a story, like this, so silly, and at the same time so very unjust, is ever treated by those, who have any knowledge of the profession itself, or of the honorable characters who exercise it, with the contempt so calumniating an assertion deserves.

The practitioners in medicine, like those of any other liberal calling, are not so regardless of their fame as to hazard their success, either in the acquisition or preservation of it, by any wilful prolongation of disease, nor wound their consciences as men, or endanger their characters as members of society, by giving consent, or lending the smallest countenance to a combination so unprincipled and base. To speak of them as a body, they are, on the contrary, tremblingly alive to the most safe and speedy means of recovering the patient; well knowing, that in so doing, their individual feelings are best gratified, while, at the same time, their professional interests are most unquestionably promoted; yet, notwithstanding this fact, and the

vast expense of a medical education, if we make some few exceptions in the metropolis and other large places, the acknowledgments usually offered to the profession are very far indeed from being adequate to their laborious services, and constant anxieties of mind.

Of all animals, man is subject to the greatest variety of disease. The inhabitants of different climates have diseases peculiar to themselves; but different ages, sexes, conformations of the body, as well as the diversified callings, labors, and pursuits of life, are more susceptible of some complaints than of others.

A distinction is likewise made between those diseases, which are of long duration and less violent, and those which are more active in operation and dangerous in appearance; those which belong to the former class are called *chronical*, and those of the latter, *acute* diseases.

# FEVERS.

THE divisions, and subdivisions, of fevers, which different writers have enumerated, are many and various; but some have included them in those of the inflammatory, nervous, and putrid kind; the distinctions of inflammatory and nervous are, however, those which are now generally considered, the former being known by the name of synocha, and the latter by that of typhus.

A combination of these two genera seems to be that form of continued fever, which is most prevalent in this climate; the former being apt to preponderate at its commencement, and the latter towards its termination.

Several species are comprehended under the name of typhus, but seem to arise either from a different degree of power in the cause, from different circumstances of the climate, or season, in which they happen, from some peculiarity in the constitutions of the persons affected, or from a peculiar state of the fluids inclining to putrescency.

A fever exists when the motion of the blood is preternaturally accelerated, which increased motion seems to be caused by an effort of nature to expel something out of the body which ought not to be retained within it; but this effect becomes a primary disease, from the incapacity of nature to remove it. By nature is meant that motive power by which those functions are performed, which are entirely independent on our own direction, or consent; such, for instance, as the pulsation of the heart and arteries, and the animal secretions; but spontaneous actions, or those which are chiefly so, being objects of eligibility, are therefore, by physicians, termed non-naturals.

Every thing which has a tendency to enervate the body, may be considered as a remote cause of fever; and, accordingly, we find it commencing after great bodily fatigue, too great an indulgence in sensual pleasures, violent exertions, intemperance in drinking, and errors in diet; and not unfrequently the suppression of some long accustomed discharge, violent passions of the mind, sudden transitions from heat to cold, too close an applica-

tion to study, may all be enumerated among the many causes of fever. Exhalations arising from animal or vegetable substances in a state of putrefaction, have also been considered as another general cause of fever; marshy or moist grounds, acted upon by heat for any length of time, usually send forth vapors, which prove a never-failing source of fever. The proximate cause of this disease is irritation, which may occasion a spasmodic affection of the whole nervous system, commonly owing to an obstruction of insensible perspiration;—when the particles of this matter are thrown back into the circulation, they may stagnate in, and plug up, the extremities of the capillary arteries, or bring on spasmodic constrictions of them.

Fevers generally begin with a previous sensation of debility, chilliness, and yawning, which, after a time, are succeeded by great heat; the face looks flushed, the skin is dry, as likewise the tongue; universal restlessness prevails, with a violent pain in the head, oppression at the chest, sickness at the stomach, an inclination to vomit; there is likewise great thirst and costiveness, the pulse is full and frequent, beating, perhaps, ninety, or a hundred, strokes in a minute. These symptoms, however, vary in different persons, and in the same patients at different times; but heat, and a disordered pulse, are present in every fever.

## INFLAMMATORY FEVER

Is attended with such symptoms as clearly point out a state of general inflammation, by which it may be always distinguished from those that are nervous, or putrid. Persons of all ages and habits, and at every season of the year, are liable to this visitation; but those of strong elastic fibres, and of plethoric constitution, are most obnoxious to it. From the symptoms which attend this disease, it is pretty certain, that the medical attendant, who should be sent for without delay, will recommend bleeding, especially on its very first attack. Vomiting is also among the needful aids on the fever's first appearance; and the antimonial ones are to be preferred. Emetic medicines, given in small nauseating doses, have likewise a great tendency to curb the force of the circulation, and invite it to the surface of the body.

Sydenham observes, that nothing cools the body so speedily, and so lastingly, as bleeding, when immediately succeeded by a purge.

The practice of the ancients, with respect to copious draughts of cold water, as well as the external application of it in *ardent* fevers, is at present a hazardous practice.

Besides a proper attention to the quiet of the patient, it is proper that the bed-room should be kept cool, by the admission of fresh air: he should abstain from solid food, animal broths, and be supported with gruel, and preparations of sago and tapioca; and his thirst may be relieved by drinking frequently of diluted tepid liquors, acidulated with lemon juice, or crystals of tartar: small and repeated doses of nitre are also recommended.

## PUTRID AND MALIGNANT FEVER:

OR

## TYPHUS PUTRIDA.

PUTRID Fevers may be distinguished from the inflammatory, by the smallness of the pulse, the great dejection of mind, the dissolved state of the blood, and the petechiæ, or purple spots. They may be likewise distinguished from the low, or nervous, fever, by the heat and thirst being greater, the urine of a higher color, and the loss of strength; dejection of mind, and all the other symptoms, assuming a more formidable appearance: and it should be here remarked, that inflammatory and nervous fevers may soon degenerate into those which are malignant and putrid, by an imprudent use of the lancet, by too hot a regimen, by the omission of such medicines as are proper, and the application of those that are injurious; and it sometimes happens, that the inflammatory,

nervous, and putrid symptoms, are so blended together, as to require the nicest discrimination to ascertain to which class the fever belongs; hence a most solemn and weighty argument for calling in, on the very first attack of every disease, especially those of a serious aspect, the advice of the most able and experienced practitioner;—and not, under the dangerous presumption, either of the patient, or the friends, that the sufferer may get better without it, lose the critical, perhaps the only, opportunity of arresting the progress of the complaint.

Principiis obsta—check the first advance, is an adage not less wholesome in the management of disease, than in the regulation of morals. Fever in the body, like flame in the building, threatens to undermine and destroy the whole, if suffered to ravage long, or till the energies of nature are impaired, or exhausted; and then it may be dolefully said, serò medicina paratur!—the engines come too late!

The putrid or malignant fever bears a great resemblance, in many of its symptoms, to that most direful malady—the plague. The most general cause of this fever is contagion, applied either immediately from the body of a person who is afflicted with it, or conveyed by the clothes from the putrid effluvium of animal or vegetable substances, from a

want of proper cleanliness, or confined air; hence it prevails in hospitals and gaols, and in every other place where many persons live together without a free and wholesome circulation of air; but it is produced, moreover, from a close state of the atmosphere, with damp weather; and persons of lax fibres, and who have been weakened by any previously debilitating cause, such as poor diet, hard labor, long fasting, intemperance in sensual gratifications, anxieties of mind, and want of rest, are most susceptible of this disease.

On its first coming on, the person feels amazing weakness and dejection of spirits; universal weariness and soreness; pains in the head, back and extremities, and rigors; the eyes appear full, heavy, and inflamed; the temporal arteries throb violently; the tongue is at first white, but afterwards appears black and chapped, and the teeth are covered with a black crust; the breath is laborious, and often interrupted with deep sighing; the breath is hot and offensive, the pulse is quick, small and hard; the patient sometimes complains of a load and pain about the region of the stomach; and bilious matter is discharged by vomit.

As this disease will never cure itself, and is always dangerous, and the danger becomes sadly heightened by neglect, or improper treatment; duty

and conscience imperiously demand from those whom it may concern, that, at the very commencement of this most deplorable disease, the best advice and remedies be vigorously exerted in behalf of the suffering patient: an emetic is of general importance at the first onset, and after that the bowels should be relieved by some gentle laxative.

After these measures have been adopted, provided the heat of the body is steadily above the temperature of health, the ablution of the patient with cold water, or rather a general affusion, has been most powerfully recommended.

The authorities of practitioners of the very first eminence, allow the application of cold water, on the first attack of the complaint, to be, under certain restrictions, an efficacious remedy for checking its progress; and likewise in other fevers of low and contagious description; but it ought not to be applied when there is a sense of chilliness present, or when the heat of the surface of the body is not steadily above that which is natural, or where there is any general, or profuse, perspiration.

The most beneficial time for using the cold affusion, is when the exacerbation is at its height, or directly after it is begun, which is generally from six to nine in the evening.

The lancet in this disease must on no account be used. The intestinal canal requires to be kept open by very mild laxatives. Peruvian bark, port wine, astringents, antiseptics, camphire, and opiates, are, under skilful direction, very principal means of recovering the patient.

In this fever, a clergyman (the Rev. Edward Cartwright) has recommended fixed air to be given in the form of yeast.

He directed it to be given to a boy about fourteen years of age, who had been ill several days in this fever, to whom bark and wine had been administered without any apparent advantage, and for whom there was but little hope of recovery; yet, on taking two table-spoons full of it every three hours, the patient was relieved, and recovered very soon.

This gentleman, moreover, tells us, that he gave the same remedy to above fifty patients, without losing one. Practitioners, however, in this, as in other matters, are divided in opinion; some have reported, that they were obliged to abandon it, from the severity of vomiting and purging, which it occasioned; whilst others, again, have as warmly attested the efficacy of yeast; but a very sensible writer suggests, that as the good effects of yeast seem to depend on the fixed air which it contains,

those disagreeable effects, which are said to be produced by the yeast, might be avoided by water impregnated with the gas, while the advantages of the remedy might be equally retained.

The method of giving yeast to such as are disposed to use it, is by putting a table-spoonful, or more, (according as it agrees with the patient's stomach,) into a quart bottle, filled up with mild porter, of which the patient may take a glass full every hour, or oftener if he is thirsty.

When this disease happens, the sick ought to be separated from the rest of the family, in as remote a part of the house as possible, and especially in schools, and other large establishments; the bedlinen should be frequently changed; the body kept clean, and every thing offensive instantly removed; the chamber should be perfectly ventilated, by admitting into it a free circulation of fresh air, and the room sprinkled frequently with warm vinegar, in which some aromatic herbs have been infused; and as fresh plants and flowers are well known to imbibe nutrition, and at the same time to correct noxious and putrid air, they ought, whenever they can be procured, to be introduced into the apartments of the sick.

A very eminent physician, (Dr. Carmichael

Smyth) from ample experience of its good effects, recommends, that all infected places be fumigated with nitrous gas; this is done by decomposing nitre, or salt-petre, by means of vitriolic acid, in the following manner:—

"Put half an ounce of vitriolic acid into a crucible, or into a glass, or china cup, or deep saucer, and warm this over a lamp, or in heated sand, adding to it, from time to time, some nitre: vessels of this description should be placed at twenty or thirty feet distance from each other, according to the height of the ceiling, or virulence of the contagion, and should be stirred about with glass spatulas."

As the quantity of vapor depends, in some measure, on the surface; it is better to have the vitriolic acid put in a number of small vessels, than in one or two large ones; besides, in this way, it has the advantage of being diffused more readily in any given space.

Not any but the necessary attendants should have intercourse with the sick, and these should use the proper means against inhaling the vapor immediately arising from the diseased body, which will be pointed out in a chapter of this work, under the name of 66 General Cautions."

#### OF THE

# SCARLET FEVER;

OR

## SCARLATINA FEBRIS.

From the appearance of the patient's skin, which looks as if tinged with red wine in various parts of the body, this disease derives its name.

It has long been a subject of controversy, whether the scarlet fever, and malignant sore throat, ought to be considered as different diseases, or only varieties of the same complaint.

All ages are liable to be afflicted with this fever, but children and young people are particularly subject to it; and this disease more frequently prevails about the end of autumn, or the beginning of winter, than at other periods. In this fever there are two species—when accompanied with an ulcerated sore

throat, it is called scarlatina anginosa, but otherwise it is named scarlatina, or simple scarlet fever. This distemper, which is very contagious, begins, like all other fevers, with lassitude, and shivering, alternated by fits of heat; the skin is dry, and the patient is oppressed with anxiety, sickness, and vomiting; the sufferer complains of a soreness in the throat, and a difficulty, as well as pain, in swallowing; about the third day the scarlet efflorescence appears on the skin, which continues generally for three or four days, when a gentle sweat comes on, the fever subsides, the skin is scaled off, and the patient gradually recovers.

Scarlatina itself is not usually attended with much danger; but by any neglect, or mismanagement, it has a great tendency, in the advanced degrees of it, to degenerate into the malignant putrid fever.

On the very first attack of this complaint, whether of the simple or ulcerated scarlatina, an emetic is advised.

During the hot stage of this fever, the most beneficial effects have resulted, as a medical writer informs us, from sponging the body over with cold vinegar, as is also a very proper application in the typhus putrida; but caution here, likewise, must be watchfully exercised, that the patient has not the least chilliness or tendency to perspire at the time of using it. With respect to other treatment and remedies, those which are adviseable in the putrid or malignant fever, will, for the most part, be found necessary in this.

# COW POCK;

OR

## VACCINE INOCULATION.

Until Dr. Jenner had liberally communicated his sentiments to the public some few years ago, this disease, although well known in the dairy countries, had not found its way to any medical investigation.

New opinions, says Mr. Locke, are always suspected, and usually opposed, without any other reason, but because they are not already common. Of this, the excellent physician, who first called the public attention to his discovery, has had ample and bitter experience.

A disease inserted into the constitution from the nipples of the cow, from whose wholesome and delicious milk we derive some of our first nutriment, and whose flesh we eat as food, was thought, by many, too perilous and beastly to be made use of as a security against the contagion of the small pox; the origin of which latter disease, if we are to judge from the effects which it produces in disfiguring the human aspect, and loading the whole system, as it hideously does, with stench, rottenness, and corruption, cannot be imagined to come from a purer source than the teats of a cow, or even the greasy heels of a horse.

Objections, or rather doubts, against the practice of vaccine inoculation, proceeding from honorable motives in the pursuit of knowledge, and against the hasty adoption of new opinions in a matter of such importance, are entitled to the highest commendation; for by such temperate discussions on all occasions, and especially in the present instance, error has been detected, truth elicited, facts have been established, and the whole has been so much amplified, improved, and withal so generally understood, that the reputation of this happy preservative no longer depends on the caprice of individual judgment, or the unfairness of partial report; for in every diversified shape that caution could suggest, ingenuity contrive, or obstinacy demand, the claims of vaccine inoculation have undergone the strictest ordeal and from the prodigious mass

of evidence, of different nations, of Universities, of professional and learned bodies; from the conviction and sanction of the Parliament of this united kingdom; and from the heart-rejoicing experience of multiplied thousands this discovery every where triumphs, as truth eventually must, over all opposition; and Jenner is made, in the hands of God, an index to direct to safety, against one of the most dreadful sources of human existence. When the names of those, who have slain their multitudes as warriors, shall be forgotten as those that fell, the name of this patriotic friend and physician will be immortalized in the affections of the grateful and considerate, when they read of his perseverance and magnanimity on those pages which envy cannot blast, misrepresentation pervert, or malice destroy. Prejudice usually dies hard, but die it must.

Already has this fact been exemplified in the common inoculation, it will be most happily proved in this.

"O ye mothers, fathers, and friends of humanity, hear with exultation and gratitude to Heaven, that one loathsome and fatal disease, which heretofore, on a fair calculation, blotted from the book of life, and that every year, forty thousand of the inhabitants of this united kindom, may now be exterminated through means of a safe and effectual remedy.

- men of the highest professional reputation, of unsullied characters, and disinterested motives, after strict investigation, patient remark, and ample experience, you are called upon by these strong appeals; you are conjured by duty and affection to your children, yourselves, and posterity, to receive a blessing, which, under the Divine guidance, has in this generation been so clearly pointed out.
- "Suffer not, I beseech you, any sort of unfounded prejudice to discourage you from so momentous an obligation, lest, through the omission, you may be hereafter left in unavailing wishes, and the most inconsolable regret.
- "You who are more advanced in life, and may have hitherto lived in terror and bondage of the direful contagion, and are at liberty to judge and determine for yourselves, be persuaded to relieve your minds from all anxiety in this matter, by availing yourselves of such welcome, happy tidings.
- "As the 'salus populi,' in a moral and physical point of view, either is, or ought to be, the important concern of every wise legislator, ought individuals to be allowed, after such a discovery, amounting to demonstration itself, to circulate the perilous and disgusting disease of the common small-pox?

Ought they not at least, who mean to be infested with it, to withdraw to some retired place for that purpose? The inoculation of the cow-pock should at any rate be fairly made, before an insertion of the pestiferous kind is suffered; and as that most filthy eruption may now be avoided, a sentiment of more pointed disgrace ought to be attached to it, than even to that vulgar malady, the itch.

"Is it fair, after the conviction of Parliament of the efficacy of the cow-pock, and the remuneration which the country has made to the worthy discoverer, that a whole neighbourhood should be alarmed with just apprehensions of danger, and liable to become the actual sacrifices of ignorant prejudice and invincible obstinacy?" "

"Ye Pastors," says an eminent medical writer, whose congregations listen to you for information, may a retrospection of the ravages of the small-pox, and the prospect of its extinction by the vaccine inoculation, excite your piety to promote the salutary practice in public and private."

See a sermon preached by the Author for the National Institution of the Humane Society, 1803, at Allhallows Church, London.

For the sake of promoting, by every means, the objects of so humane a prayer, and of diffusing the knowledge of the process by which any person, with a little trouble, may be instrumental to do a great deal of good, the following instructions, as given by the Vaccine Institution, in Golden-Square, are here subjoined.

#### DIRECTIONS

FOR THE

# VACCINE INOCULATION.

- I. The Vaccine Pock matter being generally, when first taken from the vesicle, a thin limpid fluid, it becomes, when dried, scarcely visible, either on glass, or on the end of a lancet, even on a quite new one. If the matter be taken on thread, it will be perceived by the stiffness of it when dried.
- II. If the matter is not used immediately on its being taken from the vaccine pock, it will, of course, be dry; and when employed, it should be softened by the smallest particle of hot water; and to avoid too great dilution, that should be done by a particle of hot water hanging on the extremity of a needle.

- III. The inoculation must be performed in the same manner as for the small-pox; but it may be useful to recommend, that
- IV. Matter be inserted in one place only in each arm, by a very small scratch or puncture of the skin.
- V. One armed lancet should be used for only one, or at most two punctures.
- VI. If the infection take, there will be seen in the inoculated part, in four days, or less, a red spot, like a small gnat bite; in six days there will be generally a very small vesicle; in nine days, a circular vesicle appears, as large as a pea, often surrounded by a small red areola; in twelve days, the red areola will generally surround the vesicle, which then begins to dry, and turn black in the middle.

Between the eighth and eleventh day a slight fever often takes place.

By the fourteenth day the vesicle is usually changed into a circular dark brown scab, which should by no means be removed, but left to fall off, which it will do in two or three weeks, leaving a pit.

If in four days the gnat bite appearance be not manifest, the inoculation should be repeated.

VII. For inoculation, matter may be taken between the seventh and thirteenth days, generally; but probably it is most efficacious, and is in greatest quantity, on the ninth and tenth days, (Dr. Jenner prefers the sixth or seventh day.)

- VIII. A considerable redness, like erysipelas, sometimes comes on, and spreads over the arm, about the eleventh or twelfth day, which goes off of itself commonly in a day or two; but cooling applications will often be of service, and never do harm. An emollient poultice should not be applied, except in particular cases of phlegmonous inflammation.
- IX. The medical treatment is the same as that of the inoculated small-pox.
- X. As the vaccine inoculation, as well as the small-pox, produces sometimes a local affection only, without any perceivable disorder of the constitution, it will be safest, in doubtful cases, to re-inoculate the subject; and if no local disease be produced, or only an imperfect vesicle of a few days' duration, sufficient security will have been obtained by the first inoculation.

## THE MEASLES:

OR,

#### RUBEOLA.

This disease usually attacks children, although every age is liable to it. The measles are contagious, and like other fevers are preceded by alternate fits of heat and cold, with sickness and loss of appetite; but the distemper is more particularly characterized by an inflammation and a considerable heat in the eyes, attended with a swelling in the eye-lids, a defluxion of sharp tears, and so acute a sensation in the eyes, that the patient cannot bear the light; a hoarseness, frequent sneezing, and discharge from the nose, are also other accompanying symptoms; and in grown persons a very severe head-ache.

About the fourth day, little red spots, like fleabites, begin to appear in the forehead, and other parts of the body. The great business in this disease is to assist nature in her endeavours to throw out the eruption, if she be too languid; but if too violent, recourse must be had to proper evacuations, and a cool regimen. The measles, in their dangerous state, may be considered as a peripneumony, or inflammation of the lungs.

Those who die of this disease are usually taken off on the ninth or tenth day. The favorable symptoms are, a moderate looseness, a moist skin, and a plentiful discharge of urine; the perilous ones are, a sudden disappearance of the spots, delirium, violent vomiting, restlessness, profuse sweats, and the spots becoming pale or livid.

When the measles are even over, if a cough and hoarseness should remain, particular attention should be paid against their tendency to consumption.

#### PULMONARY CONSUMPTION:

OR,

#### PHTHISIS.

To enumerate the variety of causes, natural, as well as acquired, whence this prevalent disease may date its origin, to point out the symptoms of its commencement, mark its progress, and the intermediate fluctuating stages to its termination, would very much exceed the express intentions of this work. Professedly limited as we are to an epitome of the history of diseases in general, we cannot launch forth into minute discussion of any in particular; and, of course, must omit to mention many predisposing causes, which contribute to this complaint; such as scrophulous habits, several occupations in life, and bad conformations of the chest.

We cannot forbear, however, on this subject, to remark, that to neglected colds, wet feet, damp air, sudden transitions from heat to cold, must be imputed by far the greater number of sacrifices, which have been made to this lingering and destructive malady.

The symptoms, which are the obvious and necessary consequences of an ulcerated state of the lungs, are a cough, and copious spitting of a purulent matter, a hectical fever, and profuse night sweats, or a colliquative and greatly weakening diarrhea; the pulse becomes quick and sharp, the body pines, and is emaciated. Painful truly to the sympathies of nature is the scene of such despoliating havock—

Still let not past discouragements enervate the hand of future exertion, or chill the warmth of pious hope. Remedies seasonably administered might have arrested this cruel progress of the disease; but yet they may, they ought now to be attempted.

Bristol Hotwell waters, early bed, and early rising; a milk diet, horse exercise, sea excursions, subacid fruits, cheerful and temperate company;

To hear the faint reply,

<sup>&</sup>quot;To mark the flushing cheek, the sinking eye;

<sup>&</sup>quot; From the chill brow to wipe the damps of death,

<sup>&</sup>quot; And watch with dumb despair each short'ning breath."

or on the approach of winter a removal of the patient to some temperate climate; and under the direction of his medical attendant, the occasional use of emetics, and the very cautious application of digitalis, or fox-glove, together with some other needful auxiliaries, may, in the hands of Providence, be instrumental to relief, and even recovery.

OF

# APOPLEXY.

This disease is a sudden abolition of the external and internal senses, and of all voluntary motion.

The sanguineous and serous apoplexy are the two principal divisions of it.

In the former, the intentions of cure are to diminish the quantity and density of the circulating fluids by bleeding, gentle purgatives, and blisters; but in the latter, there must be a considerable difference in the mode of treatment: in this species of apoplexy the pulse is not so strong, the countenance is less florid, and the breathing is performed with less difficulty than in the other. No time should be lost on the first attack of either of these, to send for medical aid; meanwhile all compression should be removed from about the neck, the patient should be kept in an erect position, and have free admission of cool air.

## A PALSY.

PARALYTIC complaints may be reduced into two kinds,—the general, and the partial palsy.

The immediate cause of palsy is any thing that hinders the proper exertion of the nervous power upon any particular muscle or part of the body. In young persons, of a full habit, the treatment of this disease must very much imitate that of the sanguineous apoplexy; but in old age, or when it is the effect of relaxation, or debility, (which is usually the case,) a very contrary course must be pursued; for in this latter instance, warm medicines, friction, electricity, generous and invigorating diet, must be adopted.

# JAUNDICE; OR ICTERUS.

A copious effusion of the bilious fluid throughout the whole body constitutes this disease. The cause most commonly arises from the mixture of bile with blood, through calculous concretions in the biliary duct, or from spasms obstructing the passage of the bile into the duodenum. A schirrous liver occasions a most hopeless state of this disease.

When jaundice affects the habit, the usual appearances on the patient are, a yellowness of the skin and whites of the eyes; he complains of an itching or pricking pain over the body; of anxiety and sickness at the pit of the stomach. The stools are usually of a clay or whitish color, and the urine yellow. Exercise, the warm bath, cheerful company, and medicines, varying according to circumstances, must on no account be neglected or delayed.

OF

#### DROPSY; OR HYDROPS.

Dropsies are chronical diseases, and originate from lax fibres, and may be either of general, or particular, affection of the body. The immediate cause of all dropsies arises from the circumstance of the exhaling vessels throwing off more fluid than the absorbent vessels can take up again.

The indications of cure will principally consist in endeavouring to remove the cause of the disease, in discharging the waters effused into the several cavities, and fortifying the patient against a relapse, by nutritious and warm diet; strengthening the solids by proper medicines and exercise, and refraining, as much as possible, from the use of fluids.

## THE CHOLERA MORBUS.

This disease often approaches suddenly. The true species of it is most frequently in autumn; it is usually preceded by a sense of heart-burn, sour eructations, with pain of the stomach and intestines, accompanied with vomiting and bilious stools. The causes of this disease principally arise from a redundancy and putrid acrimony of the bile, from taking cold, from food that turns rancid on the stomach, and from unripe and cold fruits; violent mental affections, such as fear and anger, may also induce this complaint, which is always of a dangerous tendency, as indeed are all affections and inflammations of the stomach and bowels, arising from different causes, which require the most prompt relief, and experienced medical aid.

OF

#### RHEUMATISM.

This is a painful disease, affecting the intermediate spaces between the joints and muscles, in different parts of the body: when a fever is present, it is called the acute, but without a fever, the disorder is then called the chronic rheumatism. Whilst the seat of the pain is in the external parts, there is not much danger; but if in the internal parts, such as the lungs, the brain, the stomach, or the bowels, this disorder then becomes dangerous. It is observed of rheumatism, that wherever it is seated, that part never sweats, but as soon as a sweat can be raised in the pained part, the disorder will be overcome. The general indications of cure in this disease will be to lessen the fever, to moderate the pain, to expel the morbid matter, and to strengthen the weak parts.

Such as are liable to this disease would do wisely to avoid night air, damp feet, rub themselves well with the flesh brush, use exercise, and constantly wear flannel next to the skin. OF

## THE GOUT; OR ARTHRITIS.

THERE is no disease, out of the many and complicated ones, to which the human frame is liable, that has opened a wider field for conjecture and quackery than that under present consideration; nor should this circumstance be at all matter of surprise, if we consider the tormenting nature of the attack itself—that the real cause, even to the present moment, has not been ascertained, and that the remedy still remains a secret! Great are the temptations, therefore, to a successful investigation of this complaint, especially as the victims of it usually belong to the luxurious and opulent classes of society.

Loudly, it may be well imagined, would the trumpet of Fame announce him, and lavishly would his coffers be filled with gold, who could make a firm grasp at this ambush assailant against the ease of mankind, and deliver him up to the safe custody of medical law.

Without entering into the endless controversies on the subject of this disease, it will be more useful to state a few opinions on which the greater part of medical writers seem to agree, than to bewilder the understanding about those points in which they are at variance.

A popular author, in his dissertation on the Gout, lays great emphasis, and he appears to do so with great force of reasoning, on three fertile sources of all chronic diseases; and notwithstanding the causes of them have been multiplied without end, he reduces them to these: -indolence, intemperance, and vexation. He absolutely denies the validity of a prevalent opinion, that the Gout is hereditary, although he readily allows, that if the father had it, the son becomes more disposed to the complaint; if it were hereditary, he says, the disease would necessarily be transmitted from father to son, and no man, in such a case, whose father had it, could possibly be free from it; if it were hereditary, he again remarks, the disease would appear in infancy, and in women, which in general it does not, unless the constitution in each has been abused. Diseases, he observes, that are in truth hereditary, are never cured by any art; and among such are scrophula and madness;

Dr. Cadogan, Fellow of the College of Physicians.

weaker, and by good habits, the weak ones will become stronger. The most delicate frames may be made as healthy as the strongest, and the squirrel be as free from disease as the elephant. Some industrious men, observes this able writer, fancying, that whatever is valuable must lie deep, have with the greatest alacrity plunged into the immense abyss of ancient Greek, Roman, and Arabic learning, in hopes to find out good precepts of health, and sure remedy of disease; but after all their pioneering into endless heaps of rubbish, what have they found out at last but this, that in natural philosophy some of the ancients were very ingenious in guessing wrong!

In matters of general use and necessity, particularly the preservation of health, the knowledge for the most part is simple and easy. Not so much from the natural defects of our constitutions, as from the abuse of them, it is reasonably supposed that the great number of chronic diseases originate. Persons who are liable to such sort of complaints are but too much disposed to look without, instead of within; to seek relief wholly from medicine, and disregard such necessary aids of their own; as exercise, self-denial, temperance, and serenity of disposition, to retain or recover health, which, in the opinion of a celebrated philosopher, is better than to com-

mand the world! And those, whose constitutions have been worn to rags by age or indulgence, ought not to be disappointed, or fretful, that, in the autumn and winter of their lives, the general and invigorating spring refuses to return, and that medicine is not more to be found in the Laboratory of Physic, than in Medea's kettle, which can boil them anew.

King Asa, the sacred page informs us, had a disease in his feet, supposed to have been the gout; he is blamed for putting too much confidence in medical help, for in this disease it is recorded of him—" He sought not to the Lord, but to the physicians." 2 Chron. chap. 16.

restored to health, but thy word, O Lord, that healeth all things, for thou hast power of life and death, thou leadest to the gates of Hell, and bringest up again." Wisd. Sol. c. 16. v. 12 and 13.

## DISEASES

INCIDENTAL TO

#### LITERARY AND SEDENTARY PERSONS.

As better information and advice on a subject of such magnitude as the present can no where be obtained, than in the celebrated Essay of Dr. Tissot, Professor of Physic, at Berne, a more welcome and useful service cannot be offered to the studious reader, than by making this chapter principally to consist of extracts from an author so deservedly regarded.

It is an old complaint that study, though essentially necessary to the mind, is hurtful to the body; and Celsus has intimated the necessity of a remedy. Those that are of weak constitutions, says he, as most studious men are, should take greater care than others, that what is impaired by application to their studies, may be repaired by attention to their constitutions.

There are two principal sources from whence all the sufferings of the studious flow; the constant exercise and application of the mind, and the continual rest of the body; for they are as indolent in body, as they are busy and active in mind.

By enumerating the ills that arise from both causes, a dreadful crop of diseases will be displayed.

Daily observation proves the force of the mind's action upon the stomach; the more intensely any man thinks, and the more strongly he exerts the reflecting powers of his mind, the more slowly, and with the greater difficulty, does he digest what he eats; and, on the other hand, the more free a person's mind is from reflection, the more readily and the better he digests.

The illustrious Van Swieten laments the case of youths, of the brightest hopes, who have been seized with dreadful and incurable epilepsy, upon being compelled, by severe masters, to apply to their studies with scarce any intervals of relaxation. The labor of the mind not only produces nervous disorders, but by means of the nerves gives rise to other complaints. Certain it is, that an intense application of mind relaxes the whole corporeal frame. We should not be too inquisitive in prying

into causes; and many circumstances relating to nervous disorders will for ever remain unknown. In studious men a perpetual dissipation of the nervous fluid springs from the incessant action of the nerves, attended with weakness, and an extraordinary mobility. It is not easy for the mind to throw off at will such motions as it has powerfully conceived, from whence spring many errors and dismal sensations of mind, as well as body!—Observers give us many affecting accounts of cases of this sort; but those suffer in the most dangerous manner, who dwell too long upon one and the same thought.

An eminent controversial theologist was firmly persuaded, that the seven fits of the cholic, with which he was tormented, had been occasioned by a constant fight between seven horsemen that were shut up in his bowels. There have been many instances of persons who thought themselves metamorphosed into lanterns, and who complained of having lost their thighs!

A very celebrated mathematical genius was so injured by passing his life in the laborious exercises of study, thought, and imagination, that certain fibres, agitated by incessant motion, made him perpetually feel a sensation, which seemed to be excited by a globe of fire being placed on one side of him,

and his reason being overpowered by the disorder of his nerves, he could scarcely banish the idea of the fiery globe being actually present.

A famous Tuscan artist, in painting the Devils thrown from Heaven by the Almighty, drew so fierce and horrid a figure of Lucifer, that his imagination was continually haunted with the figure of that dæmon upbraiding him with having made so shocking a figure of him.

In such persons a perpetual dissipation of the nervous fluid springs from the incessant action of the nerves.

Van Swieten says, "that in studious men, who lead a sedentary life, whilst they grow pale with poring over books, an apoplexy often arises from such a cause; but it comes on slowly and gradually; for the first symptom is languor and a love of indolence, then the understanding begins to grow dull, the memory to flag; they become sleepy, stupid, and often continue a long time in that state before death."

Besides a numerous train of hypocondriacal affections, studious and sedentary men are particularly exposed to diseases of the bladder, intestines, and liver, and catarrhous disorders. As perspira-

both prepares humors for secretion, and gives strength to the exhaling vessels, so it is greatly interrupted by the want of that motion; the humor that ought to be secreted is retained, and pollutes the whole mass of the fluids. The very posture of constant sitting with the body stooping, and the legs bent, hurts the lower extremities, and by obstructing the viscera of the abdomen, soon occasions all sorts of disorders arising from indigestion.

Nocturnal lucubrations are hurtful on many accounts: whilst a great part of the night is spent in study, sufficient time is not allowed for sleep, nor does a gentle slumber succeed meditation, for study forces the blood into the brain; and the oscillations of its fibres still continue, and that full ease of the internal senses is wanting, which alone is capable of repairing our lost strength. The injuries of watching are increased by the unwholesomeness of the night air itself, by the ill effects of candles or lamps, which infect the air with gross vapors, so pernicious to the lungs, the eyes, and the nerves.

Nocturnal studies produce all those disorders, which are the consequence of a want of balmy and sufficient sleep; the organs of sense are principally affected, their strength is exhausted, the fibres are

either worn or agitated by violent motions; hence arise an incoherent series of thoughts, deliriums, dreadful head-aches, and finally a total privation of sleep, scarcely to be cured by remedies. Of the highest advantage is it, therefore, to go to bed betimes, and rise early in the morning.

#### " Aurora favors the muses."

It will be no objection to these remarks, that all studious men are not equally affected; some men may, with constitutional impunity, be insatiable in wine, and others be cormorants in books: every one does not possess a Milonian stomach, and intestines of iron, nor can bear the labor of the mind, bodily inaction, and excesses of gluttony. men are born with happy constitutions for study, and some owe their reputation more to extraordinary genius than to industry and application; and prevented the ill effects of their severer studies, by allowing themselves intervals of leisure, by taking proper exercise, and by the dissipation both of business and amusement. Severe studies for youth are particularly hurtful; nothing more obstructs the vigor and growth, or overwhelms the machine with more languor, than to bear too hard upon the young in this respect, or in bodily labor; the season which nature intended to be devoted, by wholesome exercise and rational vivacity, to the nurture of the

body, and energy of the mind, should not be invaded by disproportioned application to toilsome and anxious studies, lest the powers of nature, in being thus prematurely fatigued, almost as quickly become exhausted.

If early studies prove injurious, in maturer age they are very hurtful: for habit becomes gradually a second nature when we begin from tender age, but in advanced life it is no longer susceptible of new customs, and the fibres of the brain, accustomed to rest, are torn before they can receive new and regular motions. Nor should studies of any sort at this season be continued too long. The soul that animates the body is indeed immortal; but so long as it is connected with a feeble frame, it must be influenced by its nature.

It is dangerous to break on the rocks of too great learning—it is shameful to be wrecked upon the opposite shore.

Copiously elegant and just is the description which Cicero has given of useful and polite learning, when he tells us, "that it nourishes youth, delights old age, adorns prosperity, affords consolation in adversity, delights at home, is no hindrance

abroad, passes the night with us, travels with us, accompanies us into the country."

- " Est modus in rebus, sunt certi denique fines,
- "Quos ultra citraque nequit consistere rectum." Hor.
- " Some certain mean in all things may be found,
- "To mark our virtue, and our vices bound."

Remedies, in all cases of emergency, from sudden accident and alarm, which demand prompt and immediate help, chiefly selected from Dr. Fothergill's preservative plan, Dr. Struve's practical Essay, and the Reports of the Royal Humane Society; to which are added some other important observations.

## TREATMENT OF DROWNED PERSONS.

In removing the body to a convenient place, care must be taken that it be not bruised, nor shaken violently, nor roughly handled, nor carried over any man's shoulders with the head hanging downwards, nor rolled upon the ground, nor over a barrel, nor lifted up by the heels; for experience proves that all these methods may be injurious, and destroy the small remains of life. The unfortunate object should be cautiously conveyed by two or more persons; or in a carriage upon straw, lying as on a bed, with the head a little raised, and kept in as natural and easy a position as possible.

The body, being well dried with a cloth or flannel, should be placed in a moderate degree of heat, but not too near a large fire. The window or door of the room should be left open, and no more persons admitted into it, than those who are absolutely necessary, as the lives of the patients greatly depend upon having the benefit of pure air. The warmth most promising of success is that of a bed or blanket well heated. Bottles of hot water should be laid at the bottom of the feet, to the joints of the knees, and under the arm pits; and a warming pan moderately heated, or hot bricks wrapped in cloths, should be passed over the body. The natural and kindly warmth of a healthy person lying by the side of the body has been found in some cases, particularly of children, very efficacious.

Should the accident happen in the neighbourhood of a warm bath, brewhouse, bakehouse, glasshouse, or any fabric where warm lees, ashes, embers, grains, sand, water, &c. are easily procured, it would be of great importance to place the body in any of these, moderated to a degree of heat little exceeding that of a healthy person; or in summer, the exposure to sunshine has been proved obviously beneficial. Friction with the hand, or with warm flannel or coarse cloth, so as not to injure the skin, should also be tried with perseverance for a considerable period of time.

The subject being placed in one or other of these advantageous circumstances as speedily as possible; a bellows should be applied to one nostril, whilst the other nostril and the mouth are kept closed, and the lower end of the prominent part of the windpipe is pressed backward. "The bellows is to be worked in this situation; and when the breast is swelled by it, the bellows should stop, and an assistant should press the belly upwards to force the air out. The bellows should then be applied as before, and the belly again to be pressed. This process should be repeated from twenty to thirty times in a minute, so as to imitate natural breathing as nearly as possible. Some volatile spirits heated may be held under the valve of the bellows whilst it works. If a bellows cannot be procured, some persons should blow into one of the nostrils, whilst the mouth and the other nostril are closed as before."

If there be any signs of returning life, such as sighing, gasping, twitching, or any convulsive motions, beating of the heart, the return of the natural color and warmth, opening a vein in the arm, or external jugular of the neck, may prove beneficial, but the quantity of blood taken away should not be large. The throat should be tickled with a feather, in order to excite a propensity to vomit, and the nostrils also with a feather, snuff, or

any other stimulant, so as to provoke sneezing. A tea spoonful of warm water may be administered now and then, in order to learn whether the power of swallowing be returned; and if it be, a table spoonful of warm wine or brandy and water, may be given with advantage; and not before, as the liquor might fall into the lungs before the power of swallowing returns. The other methods should be continued with ardor and perseverance for three hours or upwards, although there should not be the least symptom of life.

In the application of stimulants, electricity has been recommended, and when it can be early procured, its exciting effects might be tried in aid of the means already recommended; but the electrical strokes should be given in a low-degree, and gradually, as well as cautiously increased.

#### REMARKS.

Accidents from the watery element are evidently most frequent in the bathing season, particularly in deep muddy rivers, abounding with clay, weeds, shoals, or quicksands: such, for instance, as the river Avon, between Bath and Bristol, in which many melancholy disasters have happened, and which, by an uncommon degree of fatality, have

generally precluded all hopes of recovery. In the bathing and skaiting seasons, parents and guardians ought to exert their authority in prohibiting giddy unthinking youths from pursuing, at the imminent danger of their lives, these exercises in improper and hazardous situations.

Every large town ought to supply the inhabitants with a commodious pleasure bath, where these salutary exercises might, in their respective seasons, be carried on in perfect safety and free of expense.

All fords and watering-places, through which horsemen and carriages pass, and which become dangerous on every sudden flood, ought to have posts with water-marks, denoting the depth, in legible characters.

# Burning of Females, by their Clothes having caught Fire.

A BY-STANDER, or the first person who is present, should instantly pass the hand under all the clothes to the sufferer's shift, and raise the whole together, and close them over the head, by which the flame will indubitably be extinguished, and this may be effected in a few seconds; and no other method can be so ready, expeditious, and effectual.

The sufferer will facilitate the business, and also prevent serious injury, by covering her face and bosom with her hands and arms.—Should it happen that no person is nigh to assist her, she may, in most cases, if she has presence of mind, relieve herself, by throwing her clothes over her head, and rolling or lying upon them.

The females and children in every family should be told, and shown, that Flame always tends upwards—and consequently, whilst they remain in that upright posture, with their clothes on fire, (it usually breaking out in the lower part of the dress)

the flames, meeting additional fuel as they rise, become more powerful and vehement in proportion, by which the bosom, face, and head, become more exposed than other parts to this intense heat, or vortex of the flames, must necessarily be most injured; therefore, in such situation, when the sufferer is alone, and incapable, from age, infirmity, or other cause, of extinguishing the flames, by throwing the clothes over her head, as before directed, she may still avoid much torture, and save life, by throwing herself at full length on the floor, and rolling herself on it. By this method the flames may possibly be extinguished; their progress will infallibly be retarded; the bosom, face, and head, preserved from injury; and an opportunity be afforded for assistance.

Many melancholy disasters happen every year from women's head-dress catching fire, by reading or writing late by candle-light, when half asleep: also by leaving young children alone by a fire, especially if it be composed of green wood; this fuel, of all others, being most liable to emit sparks, demands peculiar care.

The muslin and gauze, so much worn by ladies, expose them, in a peculiar manner, to fatal accidents, especially in a cold season, when, by sitting too close to the fire, the light garments are either

attracted to it, or a vivid spark by suddenly popping out sets them in a blaze! and when women are unconscious of the danger, it catches flame from the slightest cause. The moment this happens, the affrighted female, in wild dismay, flies from room to room, and thus fans the flame, while her astonished companions (if any be present) standaghast, not knowing what to do, till her fate is probably determined!

#### REMARKS.

On such emergencies, the ladies ought to recollect, and indeed it ought never to be forgotten, that, in order to extinguish the flame at once, nothing more is necessary than to exclude the external air; for, without air, no substance, however inflammable, can burn a single minute. They cannot but have frequently observed the effects of an extinguisher when placed over the flaming taper, or of the damper of a tinder-box on the burning tinder.

A few Cautions that might prevent the frequency of Houses on fire.

- 1. By a strict police, and by rendering neighbours mutually responsible, and of course interested in the security of each other and of the whole district. The want of such responsibility, creating a careless indifference, defeats the general utility of insurances, on which individuals place a selfish dependance for reimbursement. Hence fires have been observed to be more numerous than they were before insurance-offices were instituted.
- 2. Magazines of gunpowder, distilleries, sugar-houses, and all hazardous occupations, ought to be removed from cities, and carried on in detached offices in the country. Other bodies there are which, without the intervention of fire, are capable of igniting combustible substances, or bursting into actual flame, and therefore, in the hands of ignorant persons, may produce dreadful conflagrations.

Among these are quick-lime, in the act of slaking on a wooden floor; phosphorus, in contact with wood; nay, a common glass decanter, of globular shape, if placed when full of water on a table exposed to the meridian sun, has been found sufficient to burn any combustible substance within the reach of its focus, and finally to consume the whole furniture of the room.

- 3. To prevent fires from spreading.—All communication ought to be cut off by party-walls, and by insulating the apartments by thin plates of iron or copper, or by strata of sand. Also by stone stairs, well-constructed chimneys, &c.
- 4. The outward air should be excluded as much as possible, as the sudden opening of a door or window increases the conflagration.
- N. B. The author of this Monitor most anxiously wishes, that if not in every house, there might at least be in every Parish, a sort of platform so constructed, that might be elevated or depressed, and so adapted to circumstances, on which, the aged—the infirm—the timid, and even babes might be landed from the window, on such dreadful emergencies!

The common fire escapes are by much too complicated and formidable for general service in the moment of terror and consternation!

Patriotic and admirably humane would it be in the Society of Arts, to turn their attention to this hint, and offer an encouraging premium for the best design of such TRULY IMPORTANT AND PRECIOUS MECHANISM!

To prevent the fatal Effects of drinking Cold Water, or Cold Liquors of any kind in warm Weather, or when heated by Exercise, or otherwise.

Forbear to drink whilst warm, or drink only a small quantity at once, which ought to remain a short time in the mouth before swallowing it; or, wash the hands and face, and rinse the mouth with cold water before drinking. If these precautions have been neglected, and the disorder incident to drinking cold water hath been produced, the first, and in most instances, the only remedy to be administered, is sixty drops of liquid laudanum in spirit and water, or warm drink of any kind.

If this should fail of giving relief, the same quantity may be given twenty minutes afterwards.

When laudanum cannot be obtained, rum and water, or warm water, should be given. Vomits and bleeding should not be used without consulting a physician.

To prevent the Effects of Excessive Cold.

Persons are in danger of being destroyed by it, when they become very drowsy, or are affected with general numbness or insensibility of the body. As the cold which proves fatal generally affects the feet first, great care should be taken to keep them as warm as possible, by protecting them when exposed to cold with wool, or woollen socks within the shoes or boots, or with large woollen stockings drawn over them; or, when riding, with hay or straw wrapped round them: by keeping up a brisk circulation in the blood-vessels of the feet, which will be best preserved by avoiding tight boots or shoes, by moving the feet constantly; or, when this is impracticable, from a confined situation, and two or more persons are exposed together, by placing their feet, without shoes, against each other's breasts.

Where the cold has produced apparent death, the body should be placed in a room without fire, and rubbed steadily with snow, or cloths wet with cold water, at the same time that the bellows is

directed to be applied to the nose, and used as in case of drowning. This treatment should be continued a long time, although no signs of life appear; for some persons have recovered, who appeared lifeless for several hours.

If even frozen meats or vegetables be placed near the fire, they will be destroyed by rottenness, and the only method of recovering them is by immersion for some time in cold water.

When the limbs only of a person are affected by the cold, they should be rubbed gently with snow, or bathed in cold water, with ice in it, until the feeling and power of motion return; after which, the bathing, or the rubbing with snow, is to be repeated once every hour, and continued a longer or shorter time, as the pains are more or less violent.

## INTOXICATION.

Habitual drunkards may be considered as suicides, since, by deliberate acts of intemperance, they precipitate their fate, proving, sooner or later, their own executioners. Deep intoxication, however lightly it may be treated by ignorant spectators, is a temporary apoplexy; a case replete with danger, and particularly so, the more suddenly it is brought on. The rapid ingurgitation of strong liquors, by its violent action on the nerves of the stomach, and by exhausting their energy, at once overwhelms the faculties. Hence the numerous fatal accidents of this nature, in consequence of presumptuous wagers, or the ignoble ambition of surpassing others in the indulgence of a low contemptible vice, that ought to cover them with shame.

To see a rational being suddenly transformed into a brute, grovelling in mud, with the head downwards, the countenance bloated, and the eyes suffused,—what a mortifying spectacle!

#### REMARKS.

- 1. To avert the impending danger, let such a person be immediately placed in a sitting posture, with the head raised by a pillow, undoing at the same time the shirt-collar.
- 2. The offensive liquor should be discharged out of the body as speedily as possible, by an active emetic, followed by a brisk purgative.
- 3. Should the power of deglutition be impeded, the remedies must be introduced by means of a catheter or flexible tube, as in cases of drowning.
- 4. A napkin, dipt in cold water or vinegar, should be applied to the head, and cool air admitted into the room, excluding all idle spectators.
- 5. Should the insensibility and lethargic symptoms increase, no time should be lost in consulting some judicious practitioner concerning the propriety of opening the temporal artery or jugular vein.

# PASSIONS.

As hurricanes and tornadoes, with irresistible force, on a sudden, spread ruin and desolation, and deform the fair face of Nature, so violent gusts of passion, those whirlwinds of the soul, sometimes arrest, in a moment, the springs of life, and instantly derange the whole human economy. Hence anger, terror, and even joy, when vehement, have suddenly brought on, in persons of acute sensibility, syncope, apoplexy, or sudden death.

#### REMARKS.

- 1. During the suspension of the vital functions, let the patient be exposed to a current of fresh air, by opening a window, while cold water is sprinkled on the temples, and concentrated vinegar applied to the nostrils.
- 2. After these have been pursued ten or twelve minutes, should no visible signs of life appear, the method of restoring animation, as recommended in

cases of drowning or strangulation, must immediately be employed.

- 3. As soon as the vital functions begin to return, the patient is often seized with giddiness, nausea, and bilious retchings. No emetic, however, nor rough medicine, must be hazarded, which, at this juncture, would infallibly exasperate the symptoms.
- 4. On the contrary, the violent commotion of body and mind must be suffered to subside, and the symptoms allayed by the most lenient remedies, especially those of a composing kind, such as mild opiates, or Hoffman's Anodyne Liquor.
- 5. To guard against a return of the suspension which might prove fatal, not only the object which occasioned it, but every other connected with it, which, by association, may tend to rekindle the passion, must be kept perfectly out of sight, and the mind soothed, by the charms of music or poetry, till reason resumes the helm.

# Suspension by the Cord, or Hanging.

In hanging, the external veins of the neck are compressed by the cord, and the return of the blood from the head thus impeded, from the moment that suspension takes place; but, as the heart continues to act for a few seconds after the windpipe is closed, the blood which is sent to the head during this interval is necessarily accumulated there. Hence it is, that in hanged persons (strangulation) the face is greatly swollen, and of a dark red or purple color; the eyes are commonly suffused with blood, enlarged and prominent.

From the great accumulation of blood in the vessels of the head, many have been of opinion that hanging kills chiefly by inducing apoplexy; but it has, however, been clearly proved, that in hanging, as well as in drowning, the exclusion of air from the lungs is the immediate cause of death. From which it appears, that the same measures recommended for drowned persons are also necessary here;

with this addition, that opening the jugular vein, or applying cupping-glasses to the neck, will tend considerably to facilitate the restoration of life, by lessening the quantity of blood contained in the vessels of the head, and thus taking off the pressure from the brain. Except in persons who are very full of blood, the quantity taken away need seldom exceed an ordinary tea-cupful, which will, in general, be sufficient to unload the vessels of the head, without weakening the powers of life.

# Suffocations by Mephitic Vapors, Charcoal, Beer, &c. &c.

- 1. The windows and doors should be opened.
- 2. Immediate removal of the subject into the open air.
- 3. The body undressed, and all pressure immediately removed.
- 4. It should be supported in a leaning posture upon a chair.
- 5. The sufferer should be covered with flannels, or blankets.
  - 6. The face sprinkled with vinegar.
- 7. A bath prepared for the feet or the whole body.

- 8. The face and pit of the stomach sprinkled with cold water, either by pouring it out of a glass, or squirting it by a syringe.
- 9. Friction applied with soft brushes, dipped in oil, must be applied every time the process of sprinkling is performed; after which, the subject should be left undisturbed some minutes.
  - 10. Clysters of vinegar and water.

Remedies to be applied on the return of life.

- 1. The use of the above-mentioned resuscitatives, such as vinegar applied to the nostrils, clysters and gentle frictions, are to be continued.
- 2. An inclination to vomit promoted by a feather dipped in oil.
- 3. When the patient is able to swallow, vinegar and water, or mint and balm tea, may be administered.

# STROKE OF LIGHTNING.

- 1. Immediate removal of the body, from the farther influence of the air, where the circumstance happened.
- 2. The doors and windows must be opened for the admission of fresh air.
- 3. Strip the body, and throw buckets full of cold water over it, for ten or fifteen minutes.
- 4. Let continued frictions and inflations of the lungs be also used, as in the case of drowned persons, and where a skilful person cannot be procured, to apply gentle shocks of electricity to pass through the chest, apply blisters to the breast.

## BRUISES OR CUTS.

When any considerable vessel, or artery is cut, a surgeon ought instantly to be sent for, but as the patient may be exhausted and die if something be not at once attempted to stop the profusion of blood, such as are present ought to apply a tight ligature, or bandage, round the member a little above the wound; but is not to be strained too tight, lest it might endanger too great an inflamation of the parts. A firm compress may be made by pressing the finger on the bleeding artery till the surgeon arrives, to take it up: where a bandage cannot be applied, the bleeding may be moderated by the application of styptics and astringents.

Swallowing of hurtful substances, or danger of suffocation from things swallowed.

Shot, fruit-stones, beans, coins, broken glass, nails, pieces of bone, pins, needles, &c.

If the substances swallowed are blunt or round, the following remedies are proper.

- 1. Emetics,
- 2. Mashed Potatoes, &c.

If pointed substances are swallowed.

- 1. Vinegar should be given in considerable quantities.
  - 2. Oil, particularly that of Almonds.

# Danger of suffocation from substances swallowed.

- 1. Gentle percussion of the back and shoulders.
- 2. The steam of warm water or milk, conveyed into the mouth.
- 3 Tickling the throat with the finger or a feather, dipped in oil.
- 4. The patient is to drink plentifully of water-gruel, milk, or oil, particularly that of almonds.

When the matter has not passed too deep, an endeavour to extract it by the fingers sometimes succeeds; otherwise a pair of nippers, or a small pair of forceps, such as the surgeon uses, who ought to be instantly employed on this distressing occasion.

Blunt bodies, which stick in the throat, may be pushed down with a sponge fastened to a piece of wire covered with leather: this apparatus should be moistened with oil before it is applied; or a long piece of a wax taper made flexible by warmth and dipped in oil, may be applied.

N.B. Urgent danger often suggests to us the most effectual remedies. In a case where the gullet was obstructed, by the introduction of a foreign substance, which threatened suffocation, the patient was ordered to swallow a piece of sponge fastened to a packthread. Thus by pulling it gently upwards the impediment was removed, and immediate relief obtained. Journal de Médicine, Sept., Paris, 1789. Vid. Dr. Struve, Practical Essay, p. 183.

## POISONOUS ANIMALS.

With respect to insects, as the bee, the wasp, and the hornet, there is no great danger to be apprehended from the venom of either; rubbing the part affected with warm salad oil, will generally succeed very well; but when the stings are many, sedative and oily poultices should be quickly applied, the patient bled, and cooling medicines taken.

# The Bite of the Viper.

The symptoms, which attend on a bite of the viper, are an acute pain in the wounded part, together with a considerable degree of swelling, that is at first red, but which afterwards becomes livid, and diffuses itself over the neighbouring parts. A poultice of bread and milk softened with salad oil, should be applied to the wound, and the person ought to drink

freely of vinegar, whey, or water-gruel with vinegar in it to make him sweat; if he be sick he may take a vomit. This course is thought sufficient to cure the bite of any of the poisonous animals of this country.

#### REMARK.

The practice of sucking out poisons from venomous animals is very ancient, and appears also to be very rational; where the bite is near a principal blood-vessel or cannot conveniently be cut out, this seems, says a physician of eminence, the most likely way for extracting the poison. No danger can be apprehended in performing this office, as the poison does no harm unless it be taken into the body by a wound. The person, however, who sucks the part, ought to wash his mouth out frequently with salad oil.

## POISONS.

They are of four kinds, animal, mineral, vegetable, and aerial. Mineral poisons corrode, stimulate, and inflame. Vegetable poisons stupify, and act on the nervous system. Animal poisons act variously.

Happily, few of the mineral poisons are known to the common people, except arsenic, corrosive sublimate, and opium. These, when taken in an overdose, whether by accident or design, have suddenly produced very tragical effects.

## REMAKRS on ARSENIC, &c.

1. To discover whether the poison recently swallowed was really this mineral, let a part of it be placed on a hot iron, when the garlic odor will presently arise if the substance was arsenic. It may

be also detected by its whitening a warm plate of polished copper; but still more clearly, according to Professor Bergman, by communicating a green color to a solution of blue vitriol.

- 2. Arsenic ought to be carefully kept under lock and key, and never vended but with extreme caution. Druggists and Apothecaries have been lately admonished by the Humane Society, at the earnest request of their late worthy Treasurer, "not to suffer so dangerous a substance to be sold in their shops, unless two or more creditable persons shall accompany the buyer, and testify the purpose for which it is designed."
- 3. Those, who have recourse to so dangerous a remedy for the cure of agues and other diseases, ought to be admonished, that it is at the risk of the patient's future health, and that, without the utmost nicety and precision as to the dose, the cure may prove much worse than the disease.
- 4. Arsenic, even in the dose of a few grains, causes excruciating pains, enormous vomitings, erosions of the stomach, cold sweats, convulsions, mortification, and death.
- 5. To prevent the impending danger, the poison ought to be evacuated with all possible expedition.

Let, therefore, an emetic of thirty grains of white vitriol be instantly given, drinking, at repeated draughts, a gallon of tepid water, to which are added two ounces of castor-oil.

- 6. To decompose or subdue any remaining particles of the arsenic that may be still lurking in the folds of the stomach or bowels, let two ounces of liver of sulphur be dissolved in a gallon more of tepid water, drinking a pint every half hour, till the whole be taken.
- 7. Other mineral poisons, as those of lead, copper, or corrosive sublimate, require nearly the same treatment, to be instantly discharged by a vomit assisted by copious draughts of warm water and milk, or oil. Afterwards dissolve about an ounce of salt of tartar, or salt of wormwood, in a gallon of water, and give the patient a tea-cupfull frequently.

# OPIUM, OR LAUDANUM.

This narcotic drug, taken in a certain quantity, soon disorders the functions of the brain, producing lethargic symptoms, terminating in apoplexy, convulsions, and death, but not without exquisite torture. Hence the unhappy suicide, who hopes, by this stupifying poison, to produce an easy and pleasant exit, may prove miserably mistaken.

#### REMARKS.

- 1. If the over-dose of opium has not been taken more than an hour, before it is discovered, it may possibly still be evacuated by a brisk emetic, of twenty or thirty grains of vitriolated zinc, after which, repeated doses of sharp vinegar are of great importance.
- 2. When the opium has been already taken a full hour or upwards; when it has begun to enter the

blood-vessels, and rendered deglutition difficult, if not impracticable, the following remedy must then be introduced into the stomach, by the method described, under article *Intoxication*.

- 3. Take ipecacuanha wine, four ounces; of which let an ounce be administered every hour or oftener in warm vinegar-whey, aiding its operation by the warm bath and copious beverage. Blisters should be applied to the arms, and sinapisms to the feet.
- 4. The only chance of evacuating the remains of the stupifying poison is, by thus converting it into a powerful sudorific, as in Dover's Sweating-Powder, and thereby expelling it through the pores of the skin.

## VEGETABLE POISONS.

Some species of mushrooms, as well as hemlock, nightshade, and other plants, by being eaten in mistake, often prove a source of poison.

The first thing to be attempted is the expulsion of the offending matter, by means of a brisk emetic.

The second object of pursuit is, to make the patient drink copiously of liquors highly acidulated with elixir of vitriol, vinegar, or the juice of lemons, and by rousing the system from a state of torpor, by a blister between the shoulders, and sinapisms to the soles of the feet.

# THE BITE OF A MAD DOG.

To be forewarned is in a great degree to be forearmed; and to give a description of those appearances which are said to be most certain proofs of madness in a dog, may contribute in the present instance to be friend that remark.

The great Boerhaave has, with much exactness, given a detail of such signs in the following words:

to hide himself; he seldom barks, but makes a kind of murmuring noise; at the same time, he refuses all kinks of meat and drink, he is enraged at, and flies upon strangers, but in this stage he remembers, and respects, his master; his ears and head hang down, he walks nodding as if overpowered with sleep: this is the first stage, and a bite now, though dangerous, is not so bad as afterwards. After these symptoms, the dog begins to pant; he breathes

quick and heavy; hangs out his tongue to emit a great deal of froth from his mouth, which he keeps perpetually open; sometimes he walks slowly, as if half asleep, and then suddenly runs, but not always directly forward as is pretended; at length he forgets his master; his eyes look dispirited, dull, full of tears, and red; his tongue is of a lead color, he grows faint and weak, oft falls down, and then rises up, and attempts to fly at every thing, and now grows mad and furious: this second stage seldom continues thirty hours, death by that time putting an end to the disease; and a bite received now is incurable!"

It has been further said by writers, that the hair of the dog is bristling and erect, and that healthy dogs, even upon smelling one that is going mad, will avoid him, and run away with horror! This disease is observed to be most frequent after a long, dry hot season, and among such dogs as live chiefly upon stinking carrion, and are confined in bad and close air, and not allowed a sufficient quantity of fresh and wholesome water.

Precaution to be taken against the bite of mad animals, and the hydrophobia, ordered by the French Convention to be inserted in the bulletin, December 9th, 1794.

- "Let the wound and the surrounding parts be first bathed with luke-warm water to take off the slaver, as soon as possible.
- Let the wounded flesh be then instantly cut out with a sharp instrument, or cauterized with a hot iron, or with spirit of nitre or vitriol, commonly known by the name of aquafortis, and oil of vitriol.
- Let no false pity intimidate or stop the operator; let him consider that he is saving the patient from a dreadful malady, and a certain death.
- Suppuration will be accelerated, and the pain alleviated, by filling and covering the wound

- with a cataplasm of bread and milk, applied luke-
- " warm, and renewed every four hours.
- " Let the surrounding parts be then rubbed with
- " strong mercurial ointment, in proportion to the
- strength of the patient, and the greatness of the
- "danger. If the danger be imminent and the
- " bites numerous, salivation must be excited as
- "quickly as possible.—Half an ounce, an ounce,
- " and even more, of mercurial ointment, contain-
- 66 ing one third of mercury, may be employed.
- "This vigorous method has been known to recover
- " persons in whom the malady had already appeared.
- "It is also necessary in this extremity, to cut away,
- "burn, or cauterize, the flesh around the wound,
- even although it should appear to be healing up.
- " It is certain that the wound opens when the hydro-
- 66 phobia makes its appearance."

# Extracted from a public print.

By inserting the following cure for the bite of a mad dog, directed by a medical gentleman when the salt waters and other medicines failed, you will oblige

#### PHILANTHROPIST.

"The passages of the throat being quite stopped " up, I caused his neck, throat, breast, and abdo-" men, to be embrocated with strong mercurial " ointment, and after rubbing in an ounce and six " drachms, a nausea came on, and a violent struggle " ensued, and he began to vomit, but was rendered " so weak that he could not discharge the glutinous " matter that lodged in the throat, and he was " almost expiring; however, with great difficulty, " he expectorated it, and instantly recovered, where-" upon I gave him of native and factitious cinnabar " twelve grains each, opium four grains, camphire " eight grains, musk twelve grains, in a wine glass " of sack and brandy; before he had drank three-" fourths of it, the passages of the throat closed up " again, and the remainder bulged out of his

mouth: however what he had taken calmed his " inquietude, brought on a profuse sweat, and he " slept eight hours, awaked much refreshed, the " pulse stronger and quicker, but the passages of "the throat still remained closed; whereupon I " repeated my former treatment, which wrought " well, for after rubbing an ounce and two drachms " of the same ointment, he began to vomit, and " parted with more than a pint of the poisonous " matter that had settled about the præcordia on " part of the heart; when instantly I repeated the " medicine a second time, which he swallowed, and " it had the desired effect, for in less than an hour "he fell into a calm and sound sleep, sweated "profusely, and in this situation he remained 16 hours, and when he awoke the symptoms were " greatly abated, the passages of the throat open, " but extremely sore, and he was very thirsty. I " ordered it to be rubbed with sweet salad oil, "well camphorated, and laid on the back a muci-" lage plaster; and to quench his thirst and preserve " a diaphoresis, directed him to drink as much as "he could of barley water, with nitre and hartshorn "drops. The next night he slept well, and all " symptoms of madness disappeared; the medicine "was continued, in less quantity, for twelve days, " when the gentleman was quite well."

Oil has also of late been recommended, thrown into the habit by means of external friction all over the body, into the intestines, by way of glysters, and given by the mouth, when patients can be prevailed on to conform to the mode; and this is said to have been successful in a case of hydrophobia. It is, however, greatly doubted by some practitioners, but it is so simple an experiment, that as it can do no harm, in co-operation with other aids, it may do good. Such then are the principal medicines proposed for preventing the terrible effects of the bite of a mad dog: to trust to any one of them might be unsafe, but by a judicious combination of the different powers, there is great reason to hope for success.

Perhaps, says the author of the Medical Dictionary, the following may be pursued as the most probable means of relief that the present art directs: Avoid sea and cold bathing; keep the wound open by a pea, and sprinkle cantharides into it every second or third day; rub in strong mercurial ointment, so as to raise a gentle salivation, and particularly rub the throat with it; if spasmodic symptoms appear, give opiates, with antimonials, to excite perspiration; opiate glysters should be frequently thrown into the rectum; the warm bath, if the patient does not object, generally palliates. But perhaps, says he, the best mode for preventing the mischief from taking place, is to let the part, immediately on the bite

being given, be suckled well for some little while, then let the portion of flesh be cut out, larger and deeper than the wound given by the dog. Of so dreadfully an acrimonious and virulent a nature, is the slaver of a dog that is mad, that the part only licked by the animal, should be put for several hours in a strong ley, or covered with cloths soaked in it; and proper internal medicines should be administered.

Canine madness, Dr. Struve remarks, may likewise be communicated by means of the instrument with which the animal was killed, and in confirmation of the necessity of such caution, he states the following fact. A gentleman after having killed a mad dog with his sword, thoughtlessly returned it into his Eight years after this circumstance, scabbard. having a quarrel with two gentlemen, he wounded them both with the same sword. The wounds were inconsiderable and soon healed, as is frequently the case with those occasioned by the bite of a mad dog; but they again opened after the lapse of three years, when the unfortunate men were seized with hydrophobia and died. This incident may serve as a caution respecting instruments, which have been used in killing mad animals. It may also be proper to observe, that the lancet, with which the wound has been scarified, ought to be tempered afresh.

#### REMARK.

Some few years ago, the writer of this Æsculapian Monitor published a letter " on the necessity of adopting some measures to reduce the number of dogs." Within a short time afterwards a tax on dogs was adopted, and a very polite reference on that occasion to the author's letter was made in the House of Commons. In that letter, the author endeavoured to prove that the disease of canine madness was chiefly to be apprehended from those animals, whose owners were either too inhuman or too poor to regard them with sufficient attention, especially, with suitable food, drink and air.-Of this description of persons, it is reasonable to presume are those, who cannot afford to pay to any of the assessed taxes, and yet in favor of these people an exemption is made of the particular tax in question, to the great annoyance and danger of the public: it is most devoutly to be hoped, however, that the wisdom of parliament will see the evil of such a privilege, and order some regulation against it.

Parochial officers, however, may very much discourage the exercise of so injurious a liberty, by considering those as not intitled to charitable relief,

who under the pretence of not being able to maintain themselves, obstinately assert the right of having in their possession, such nearly famished, prowling, and diseased animals! General precepts, on the important concerns of health and of acquiring the habits of a well ordered mind.

The first exhortation which we again bring to the mind on the interesting topic of this chapter, is piety to God!—for there, and there alone, is the strong foundation of every moral virtue and excellence, and so mercifully intended are all the appointments and dispensations of Providence, that when mortals are zealously endeavouring to render the reasonable service of homage to their Creator, and obedience to his commands; in the performance of such duties, they will entail on themselves, that blessedness, which is eternal, and are walking in the sure path of present comfort and divine protection. Next to our holy religion, which is the parent root of all goodness,

1. Exercise, temperance, and chastity, are as angelic guardians to preserve health; while indolence, excess, and sensuality, are the ambush demons to destroy it.

- 2. Avoid costiveness of body, by the occasional use of gently laxative medicines.
- 3. Proportion the clothing to the state of the weather, and if very liable to take cold—or subject to rheumatic affections, wear flannel next to the skin.
- 4. Guard against obstructed perspiration as much as possible; it is the lamentable source, in this variable climate, of the greater part of the diseases of its inhabitants.
- 5. Keep the feet warm, and the head moderately cool.
- 6. Avoid all sudden extremes, especially quick transitions from heat to cold, and from cold to heat.
- 7. Cleanliness of person, early retirement to bed, and quitting it betimes in the morning, give vigor to the intellect, cheerfulness to the mind, and firmness to the constitution.

Admonitions, which specially concern all those, who preside over Schools.

- 1. Minute cleanliness in every part of the building; such as white-washing at proper seasons, cleansing, and draining the sewers, and other offices.
- 2. The dormitory, or sleeping rooms, ought to be thoroughly ventilated; nor should the beds be suffered to be made till the wholesome and refreshing morning air has duly purified, and that for a considerable length of time, the exhalations of the body from the sheets and blankets, during the course of the night.

After every care, however, and anxiety on the part of the master; as well by providing wholesome and sufficient food for his pupils, as a watchful attention to every thing else which regards cleanli-

ness; malignant diseases will too often insidiously invade the happiness of his dwelling!

To ascertain when a contagious fever has made its appearance, it will be sufficient to know that one in the family is confined to his bed by febrile complaint; if shortly after, a second, and third complain of the same symptoms, especially if under the same roof; there can be no sort of doubt that such a disease is of an infectious nature.

The first important duty for the master's ease, and possibly the pupil's comfort of mind, as well as the satisfaction of the parent; would be on the very first appearance of such a complaint, with the approbation of the medical attendant, directly to send the patient home. If this, however, from distance of situation, or any other circumstance, is impracticable; the next momentous caution, is to prevent by every prudent endeavour the infection from taking a wider range, by cutting off all communication with the sick and healthy, except indeed with those, whose presence is unavoidable; and even those should scarcely be allowed communication with the rest of the family.

For those, whose attendance as nurses is required, the following precaution should be strictly regarded.

Nurses, being in general advanced in years, accustomed to fatigue, and not exercised with much anxiety, are not so susceptible of infection as others of a contrary description; yet it should be required of them, not only for their own, but for the sake of others, to be very observant of personal cleanliness. Clothes which have imbibed the effluvia emitted from the body of the sick for several days and nights, convey the contagion, it is supposed more powerfully, than would even the body of the patient; for which reason, the garments should be frequently changed—and the arms, face, and neck, often washed, as well as the mouth rinsed out with cold water.

Much greater caution, however, is demanded on the part of relatives.

Duty and affection, it must be admitted, when passionately felt, are inattentive to the remonstrances of danger; and it cannot be otherwise than consolatory and soothing to patients, to have their dearest friends around them! but yet, there is a duty to themselves, and to other members of the family, which ought to discourage too great a sacrifice of attention, especially in such cases as appear hopeless!

Fatigued in person, it may be after a long journey, with a mind depressed by the most dismal fore-

bodings, and a heart ready to burst with swelling grief and agony, the tender parent hurries into the doleful apartment of the dying child; and hence becomes, in such a state of mind and body, more susceptible of the disease. But let not the father, mother, brother, sister, and beloved friend, omit to pause and consider, that they have lives of their own; which from a variety of considerations, and even in these most trying circumstances, it is their bounden duty prudently to regard.

- 1. They should not approach too near the sufferer's bed, but guard as much as possible from inhaling the infectious vapor, by placing a handkerchief towards the mouth, fumigated with aromatic vinegar.
- 2. Their first visits should be short, as well for the sake of the patient as for their own.
- 3. On leaving the apartment, the mouth should be rinsed with cold water, the face and hands washed, the clothes changed, and a tea-spoonful of Huxham's tincture of bark taken in a glass of fresh water, or generous port wine; which together with a walk in the open air, would be highly serviceable in every respect.
- 4. The room of such a patient has been recommended to be, what is termed, "dry mopped," at least

once a day; it should also be fumigated with nitrous vapor in the manner described by Dr. Carmichael Smyth, the preparation of which is inserted in this book on the subject of malignant fevers.

- 5. The patient's body linen, as also the bed linen, should be frequently changed. Fresh air should be admitted into the room, and every thing offensive should be instantly removed.
- 6. After the termination of the disease, every part of the furniture of the bed should be taken away to be thoroughly washed, fumigated, and completely aired. But when the disease has proved fatal, the bed should be entirely destroyed, as also the clothes of the deceased.
- 7. The room ought to be well scoured, the cieling fresh painted, or papered, and the doors, if the weather will any way admit of it, should remain open for a fortnight or more, by night as well as day. Through inattention or ignorance of these most weighty precautions, contagion has for many months lain concealed, until from some unexpected circumstance or alteration of weather, it has stalked forth with most fatal strides.

Pupils should be allowed higher desks, than are commonly to be seen at schools for the purpose of

reading and writing. Besides running the hazard of contracting the awkward gait of stooping, the custom of a bending posture is injurious to the lungs; and though it may not be immediately felt, yet is unhappily known to have laid the foundation of pectoral and other diseases. There are thousands of persons daily suffering from this cause. When this organ is compressed, as it naturally must be in a continued flexure of the chest, it is impossible that the air can have free access, so as to expand the lungs sufficiently; from this circumstance arise inflammations, tubercles, and adhesions, which too often sadly terminate in consumptions. Besides, the aid of the lungs is necessary to form good blood, and when that viscus is disordered, a general depravity of the humors of the body quickly succeeds, and the whole system is undermined.

As good and sound teeth are confessedly so ornamental and necessary, while imperfect and decayed ones are so unpleasant and tormenting; it becomes matter of réasonable inquiry, why they are so much neglected, as they usually are, at the most important season of youth and school days?

Surely some stated inspection and care, at proper seasons, either from the dentist or some other capable person, might well be the subject of private

gratitude at some future day; and especially, would such precaution to the other sex, insure their fairest admiration!

In the adjustment of clothes, very particular directions should be given that not any thing be made too tight. For every article of dress, in that state, acts as a ligature on the part to which it is applied, whether they be cravats, shoes, necklaces, or garters, or stays, or bracers of any description; which when drawn too close, obstruct the circulation of the blood, and may occasion very serious evils.

Concluding Cautions and Admonitions to young People.

CLEANLINESS, it has been well observed, is next to godliness, and casts around the person who delights in it the most wholesome attractions. The word cleanliness admits of very general meaning, and implies a great deal more than a regard to mere exteriors; but which is readily understood by association of ideas, as well as uniformity of practice in all its applications by those, who are susceptible of such impressions.

Of such a duty, however, partial, and sometimes general ablution of the whole body is the principal; for independently of the cleanliness of such habits, they become absolutely necessary to health. When it is considered, that nearly half of what we eat and drink is evacuated by perspiration; if the skin be not kept fresh and clean, the pores must be plugged up from the grosser parts of that matter, hardening on its surface, to the great inconvenience

as well as injury of the constitution. As this subject naturally introduces that of bathing as well as swiming; it may be both seasonable and instructive, to state here from the writings of others, some plain directions by way of guide for such exercises, when situation and other circumstances will admit of them.

Scarcely any thing is more conducive to health, or can afford a more salutary amusement than the knowledge of swimming. Youth is the most proper season to acquire this art, for in early life we are less fearful, and having more spirits, sooner get the knack of keeping upon the surface of the water.

In the education of youth this matter should not be disregarded; for it gives the possessor an opportunity of saving his own, as well as preserving the lives of others, whom accident or imprudence may have involved in the most imminent danger; the old Romans and Grecians all bathed, and in Russia at the present day, almost every house has its bath.

Much has been said by medical writers in praise of the cold bath, as well as of immersion, entirely or partially, in cold water. Its effect upon the nervous system is astonishing, and, besides the pleasure it affords, it is a duty to cleanliness in all countries,

particularly in hot seasons. Mechanics and all inhabitants of populous and crowded cities cannot do better than to observe it as a great preserver of health. Sedentary people should pay attention to this exercise, as it braces the solids, increases the motion of the blood, promotes the secretions, and bestows fresh vigor upon the whole system. To the young generation it is most particularly beneficial; an eminent physician observes, that it encourages their growth, quickens their strength, enlivens their motions, and prevents a multitude of distempers, to which they are liable before the date of manhood. However, as every useful and necessary thing may be too much used, and as the abuse of all things is hurtful, it is very proper to give a few cautions against bathing too frequently, as well as, remaining too long in the water at one time; for that may produce the most fatal consequence, by forcing the humors into the head, contracting and cramping the muscles, relaxing the nerves, bringing on a total debility, and thus defeating the salubrious intention of cold bathing.

Some consideration should be observed by bathers, in regard to undressing themselves. If they have sweated sometime before, and are not quite cooled, they ought to strip by degrees, and walk leisurely about the shore, before they venture into the water.

Persons intending to bathe ought to take as much exercise as may excite a very gentle warmth all over the body, but on no account to over-heat themselves; and the best time, is the prime of the morning, or at least before noon, always observing to go in head foremost; for the blood and humors naturally propelling towards the head, it ought to be always a rule to wet that part first: and by attending to this circumstance, the violent head-ach, chilness of the breast, and singing of the ears, so often attendant on cold bathing, may be avoided.

It is also requisite that the body should be wiped as dry as possible on coming out of the water, or where convenient, a little exercise ought to be taken till it is dry. But if, after all these precautions, any of the before-mentioned symptoms appear in a violent degree, bathing ought to be discontinued, as the consequences may prove of the most serious nature.

It has been already observed that the natural dread which we have of being drowned is the principal reason why man cannot swim. With regard to the real danger, it is but little, and, on most occasions, owing entirely to the sense we have of our situation in the water. This will plainly appear from the following observations made by the philosophical Doctor Franklin.

- a human body, being solid parts, are specifically somewhat heavier than fresh water, yet the trunk, particularly the upper part, from its hollowness, is so much lighter than water, as that the whole body, taken together, is too light to sink wholly under water, but some part will remain above until the lungs become filled with water; which happens from drawing water into them instead of air, when a person in the fright attempts breathing while the mouth and nostrils are under water.
- lighter than salt water, and will be supported by it; so that a human body would not sink in salt water though the lungs were filled as above, but from the greater specific gravity of the head.
- "3dly, That therefore a person throwing himself on his back in salt water, and extending his arms, may easily lie so as to keep his mouth and nostrils free for breathing, and by a small motion of his hands may prevent turning, if he should perceive any tendency to it.
- himself on his back near the surface, he cannot long continue in that situation, but by a proper action of his hands on the water. If he uses no

such action, the legs and lower part of the body will gradually sink till he comes into an upright position; in which he will continue suspended, the hollow of the breast keeping the head uppermost.

"5thly, But if in this erect position the head is kept upright above the shoulders, as when we stand on the ground, the immersion will, by the weight of that part of the head that is out of the water, reach above the mouth and nostrils, perhaps a little above the eyes; so that a man cannot long remain suspended in water, with his head in that position.

before, and upright; if the head be leaned quite back, so that the face looks upwards, all the back part of the head being then under water, and its weight consequently in a great measure supported by it, the face will remain above water quite free for breathing, will rise an inch higher every inspiration, and sink as much every expiration, but never so low as that the water may come over the mouth.

"7thly, If therefore a person unacquainted with swimming and falling accidentally into the water, could have presence of mind sufficiently to avoid struggling and plunging, and to let the body take this natural position, he might continue long safe from drowning, till perhaps help would come; for

as to the clothes, their additional weight while immersed is very inconsiderable, the water supporting it; though when he comes out of the water, he would find them very heavy indeed."

## His Method of Learning to Swim.

"The method of learning to swim is as follows: The person must walk into water so deep that it will reach to the breast. He is then to lie down gently on the belly, keeping the head and neck perfectly upright, the breast advancing forward, the thorax inflated, and the back bent; then withdrawing the legs from the bottom, and stretching them out, strike the arms forward in unison with the legs. ming on the back is somewhat similar to that on the belly; but with this difference, that although the legs are employed to move the body forwards, the arms are generally unemployed, and the progressive motion is derived from the movement of the leg. In diving, a person must close his hands together, and, pressing his chin upon his breast, make an exertion to bend with force forwards. While in that position, he must continue to move with rapidity under the surface; and whenever he chooses to return to his former situation, he has nothing to do

but bend back his head, and he will immediately return to the surface.

"It is very common for novices in the art of swimming to make use of corks or bladders to assist in keeping the body above water. Some have utterly condemned the use of these: however, Dr. Franklin allows that they may be of service for supporting the body, while one is learning what is called the stroke, or that manner of drawing in and striking out the hands and feet that is necessary to produce progressive motion. "But (says he) you will be no swimmer, till you can place confidence in the power of the water to support you: I would therefore advise the acquiring that confidence in the first place, especially as I have known several who, by a little of the practice necessary for that purpose, have insensibly acquired the stroke, taught as it were by nature. The practice I mean is this: Choosing a place where the water deepens gradually, walk coolly into it till it is up to your breast: then turn round your face to the shore, and throw an egg into the water, between you and the shore; it will sink to the bottom, and be easily seen there, if the water is clear. It must lie in the water so deep, as that you cannot reach it to take it up, but by diving for it. To encourage yourself in order to do this, reflect that your progress will be from deeper to shallower

water; and that at any time you may, by bringing your legs under you, and standing on the bottom, raise your head far above the water: then plunge under it with your eyes open, throwing yourself towards the egg, and endeavouring by the action of your hands and feet against the water, to get forward till within reach of it. In this attempt you will find that the water buoys you up against your inclination; that it is not so easy a thing to sink as you imagined; that you cannot but by active force get down to the egg. Thus you feel the power of the water to support you, and learn to confide in that power; while your endeavours to overcome it, and to reach the egg, teach you the manner of acting on the water with your feet and hands; which action is afterwards used in swimming to support your head higher above water, or to go forward through it.

These are the most material of Dr. Franklin's directions, and if rightly pursued will insure from danger and accident.

To avoid the ungraceful acquirements of Stuttering, or Stammering in Speech.

Never attempt to utter your sentiments on any matter, without having, first of all, well considered it, and feeling a sufficient confidence that you are equal to the task; and let your pronunciation on all occasions be slow, distinct, and clear.

As well from motives of good sense as common humanity, never degrade yourself by mimicking those, who from natural or unavoidable causes, may be so pitiably confirmed in this defective articulation, as to set aside the hope of any adequate remedy; but if persuasions of a more generous kind will not check a propensity to indulge so cruel a disposition; it should be remembered that those who were the apes, not of the virtues but the bodily imperfections of others, have frequently been punished by the scourge of their own imitations, by having, at length, imperceptibly made them their own.

In such low attainments, the most vulgar, and the most ignorant, will usually best excel!

It is is reported of Clark, a late posture master in London, in the Philosophical Transactions, that he could disjoint almost his whole body, so that he imposed on a very eminent surgeon who considered him in such a miserable condition, that he absolutely refused to undertake his cure. Though a well-made man, he would appear with all the deformities imaginable, such as hunch-backed, potbellied, and sharp-breasted. He disjointed his arms, shoulders, legs, and thighs; and rendered himself such an object of pity, that he has frequently extorted money, in the quality of a cripple, from the very same company with whom he had a little while before associated as a companion.

He would make his hips stand a considerable way out from his loins, and so high as to invade the place of his back. Yet his face was the most changeable part about him, and showed more postures than all the rest.

Having, however, stated thus much to show the uncommon powers of plastic motion and grimace in this man, the highest title that he can claim is that of an eminent buffoon! The knowledge of such

an art is beneath the notice of a gentleman, unworthy the pursuits of a scholar, and repugnant to the feelings of a Christian.

A very ingenious teacher, who undertook to cure stammerers, (about whom we are now discussing) began with instructing them in the alphabet, by rule; then led them on to syllables, and from these to sentences. When his pupils, either in reading or speaking, began to stammer, he took notice by what letter they were thrown into confusion, and stopped them instantly; he afforded time for recollection, and then made them practice single words, or short sentences abounding with that letter. After this, he required them frequently to repeat the sentence which had occasioned the embarrassment, slowly indeed at first, but with as much deliberation, as musicians do, when they find their fingers unequal to the execution of new and difficult combinations in music. By this method, it appears, that he cured the stammerer in the space of a short time.

Of the cure of Demosthenes who was addicted to stammering, the method has been often told: he not only effected this by putting pebbles in his mouth, but removed the distortions of his features which accompanied his utterance, by watching the appearances of his face in a looking glass; and, that

his pronunciation might be full and loud, he frequently ran up the steepest and most uneven walks, where his voice acquired force and energy; and on the sea shore, when the waves were violently agitated, he declaimed aloud for the purpose of training himself up to the noise and tumults of a public assembly.

In most instances, however, of stammering, the nerves are affected, and the system is irritable, and like other affections of that nature, requires the aid of medicine.

Unless you wish to be the promoter of human misery and wretchedness, let no sordid, or other motives, tempt you to marry into any family tainted with inveterate scurvy, or that is known to be afflicted with the deplorable malady of mental derangement.

Never swallow your food without due mastication.

It is injurious entirely to exclude the fresh supply of air from your chamber, by drawing too closely the curtains around the bed, or suffering what is termed a chimney-board to be put in such a room.

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Too often you cannot be admonished against the

danger of damp feet, damp clothes, and rushing suddenly into a cold draught of air, when you feel heated from any circumstance of particular exertion, or confinement in a warm room; and,—

- "The dews of the ev'ning be careful to shun,
- "They're the tears of the sky, for the loss of the sun."

Beware of eating any thing, where you have an opportunity of knowing it, which has been dressed out of copper utensils, not sufficiently well tinned, and earthen vessels, which are glazed with too much lead, especially if any sort of acid food has been suffered to remain in them; for the acid dissolves and mixes with part of the copper, as also with the lead, and the most fatal consequences may result from the food prepared in them!

Firmly resist, at all times, the temptations of a voluptuous banquet. Our highly distinguished countryman, Mr. Addison, has given some important hints, and such as may well induce us to check our natural propensities on such occasions; for this sagacious man has justly remarked, that when he saw a fashionable table in all its magnificence, he saw gouts and dropsies, fevers and lethargies, with other distempers, lying in ambuscade among the dishes. And that eminent statesman, Sir W. Temple, has thus cautioned us on the subject of

the bottle—"The first glass for myself, the second for my friends, the third for good humour, and the fourth for mine enemies." The moral to be deduced from this instruction in favor of temperance and health, is too obvious to require further explanation.

- "Who drinks, alas! but to forget; nor sees
- "That, melancholy, sloth, severe disease;
- Mem'ry confus'd, and interrupted thought,
- " Death's harbingers lie latent in the draught;
- " And in the flow'rs, that wreath the sparkling bowl,
- " Fell adders hiss, and pois'nous serpents roll."

As prevention, in all cases, is better than remedy, it will not be irrelative to the design of this chapter, to admonish, particularly the young, to be seriously attentive, that no accidents happen to themselves, or others, from the careless manner in which some, alas, have so fatally carried their loaded guns, when in the eager pursuit of game; and if they dread to take away the lives of their fellow-creatures, to take particular heed, that no neglect on their part of discharging the loaded piece before they return home, be the dismal subject of reproach to their conscience, by having occasioned, through that omission, the sacrifice of human life: but language cannot be too severe and indignant against many unthinking people, who, for the purpose of deriving amusement to themselves, at the distress of others,

have presented to their most beloved friends, what at the time they supposed to be an unloaded gun; yet, on pulling the trigger, have been overwhelmed with consternation, and petrified with horror, to witness, in the instant death, or disfigurement, of the victim, their most dreadful mistake!

Surely, after the many sad examples of family distraction, in consequence of such disasters, some adequate punishment should be inflicted on those, who, not affected by such dismal warnings, have the audacity to persist in a frolic, if such it must be called, capable of such dreadful termination.

The fool, because he is a fool, will do it; to him, indeed, reflection does not belong: but inconsolable must be the anguish of that mind, which can assert its rational pretensions, and yet by the indulgence of such stupid levity, may have made his hand the instrument of such a fatal deed.

Amusements are necessary to all, and especially to young people; they ought, however, to be of such a description as will help to exalt and dignify the human character, but on no account derive them from any actions of cruelty, either intended or implied, which have the remotest tendency to reproach and degrade it. In such exercises only we should take delight, as would give cheerfulness

to the mind, health to the body, and with the contest of fame would associate some kindred principle of honor.

Compassion, says a very elegant writer, " is an emotion, of which you ought never to be ashamed. Grateful in you is the tear of sympathy, and the heart that melts at the tale of woe. Let not ease and indulgence contract your affections, and wrap you up in selfish enjoyment. Accustom yourself to think of the distresses of human life; of the solitary cottage, the dying parent, and the weeping orphan. Never sport with pain and distress in any of your amusements; never treat even the meanest insect with wanton cruelty."

Beseech God to impress your minds with reverence for every thing that is sacred.

The spirit of true religion, says the writer to which we have just alluded, breathes gentleness and affability: it gives a native, unaffected ease to the behaviour: it is social, kind, and cheerful: far removed from that gloomy and illiberal superstition, which clouds the brow, sharpens the temper, dejects the spirits, and teaches men to fit themselves for another world, by neglecting the cares of this. Let your religion, on the contrary, connect preparation for Heaven with an honorable discharge of the duties of active life.

Instead of those fallacious hopes of perpetual festivity, with which the world would allure us; instead of dazzling us with the meteors of joy, which sparkle and expire; the religion of Christ, our Saviour, when fairly represented, and duly appreciated, sheds around us a calm and steady light. And accustom yourselves thus to think, and thus to act, when the mind is young and susceptible; for if the spring put forth no blossoms, in summer there will be no beauty, and in autumn there will be no wholesome fruit.

Remember always, that the years which now pass over your heads leave permanent memorials behind them. From your thoughtful minds they may escape, but they remain in the remembrance of God.

With zealous prayers for the happiness, temporal as well as spiritual, of those, for whom this work is designed, the author begs to conclude, on the present occasion, in the following words:

Let virtuous manners, under the direction of Christian principles, be your pilot and guide through all the varying scenes of life; and acknowledge with holy reverence, as if an angel from the Throne of Heaven were the special messenger of it to your heart; that guilt is the baneful cause of every pain, and the favor of God is the only source of every substantial pleasure.

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